CRIME AND DESTINY

JOHANNES LANGE

INTRODUCTION BY
J.B.S. HALDANE

Charles Boni PAPER BOOKS *New York*

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☆ JOHANNES LANGE ☆

TRANSLATED BY
CHARLOTTE HALDANE

1930

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FOREWORD

Why do people commit crimes? This question has been asked, and answered, ever since we have any records of human thought. In the Bible we find answers of various kinds. Evil acts are sometimes put down to supernatural intervention, as when the serpent tempted Eve, and the Lord hardened Pharaoh's heart. Sometimes they are ascribed to the influence of other men, as when Jeroboam the son of Nebat made Israel to sin. In other passages the source of evil is placed quite as emphatically within us. According to Jeremiah, "The heart is deceitful above all things, and desperately wicked: who can know it?" And Jesus said, "Out of the heart proceed evil thoughts, murders, adulteries, fornications, thefts, false witness, blasphemies: these are the things which defile a man."

Now in the Bible spiritual things are described in parables, that is to say, symbolically. We know to-day that the heart has very little to do with moral behavior. Heart disease does not lead to evil conduct. Brain disease, especially lethargic encephalitis, often does so. This fact is generally realized. In the same way we shall gradually come to see that spatial metaphors, like "inside" or "external," though at first useful, are ultimately misleading when applied to the mind. If we treat the mind like a box and say that some things are outside it and others within it, we are ultimately led into contradictions.

The scientific approach to the problem of evil is of a different character. The secret of success in scientific research lies largely in asking simple questions. We do not say, "What is matter?" but, "What are the differences in behavior between different sorts of matter?" and the answer even to that question is the whole science of chemistry. We do, incidentally, get from chemistry a partial answer to what matter is, but the chemist, in his individual researches, always asks much simpler questions than this.

Just the same is true in scientific psychology, of which Professor Lange's book is a masterpiece. He does not pose such terrific questions as that of the origin

of evil or the nature of the will. He attempts to answer the question, "What accounts for certain resemblances and differences in human conduct?" And no one who reads this book through can deny that he has answered it with a fair measure of success.

When we compare two human beings, or for the matter of that, two animals or plants, we can put down all the differences between them to one of four sets of causes:

1. Differences of ancestry,
2. Segregation,
3. Differences of environment,
4. Uncaused events, if such occur.

Let me explain what I mean. Two brothers, or two seedlings from the same plant, generally resemble one another more closely than two individuals taken at random from the population. This is because they have the same ancestry. But even two brothers may differ a great deal. This is due to a phenomenon called segregation. If you want to see segregation at work, look at an average litter of kittens. Segregation takes place as follows: Every man or woman has in each nucleus of every cell in his or her body two sets of genes, ultramicroscopic bodies which determine the innate differences between people. When germ cells (eggs and sper-

matozoa) are formed, only a single set of genes goes into each cell, and these genes are chosen more or less at random from the two parental sets. The union of two germ cells gives a new individual with a double set of genes.

How can we avoid segregation, and get a set of individuals each of whom carries the same genes? This is how the fruit-breeder does it: He self-fertilizes one apple tree or crosses two, thus getting a number of seeds. Of a thousand seedling trees only one may be worth preserving. This one is multiplied by cutting and grafting, and the trees derived in this way are all extraordinarily alike, because they are really sections of a single tree. The world contains several million trees of Cox's Orange Pippin, but from the point of view of the geneticist they are a single individual. Thus, if we can find a case of reproduction apart from the sexual process, we shall be able to avoid segregation.

But we cannot propagate men and women from cuttings. Solomon's suggested experiment in this direction was abandoned owing to opposition from the mother of the subject. However, nature often succeeds where Solomon failed. The human egg cell divides into two soon after fertilization. Usually the two halves stay together, each growing into one half of the embryo;

occasionally they are separated, and form two twin embryos. These resemble one another as do two cuttings from the same apple or rose tree. Ordinary twins are no more alike than brothers or sisters born separately. But monozygotic twins, as the products of fission of an egg are called, are physically so alike that their own mother often cannot tell them apart. For example, the right hands of such a pair are more alike, as judged by fingerprints, than the right and left hand of the same person. The first two sets of causes are abolished in them. Moreover, their environments in childhood at least are extraordinarily similar. Differences in their behavior must be due to minor environmental differences and to events of the fourth class in our list.

That fourth class includes free-will if it is taken in the sense of indeterminism, or action independent of any causes. It may be a class with no members, like the snakes of Ireland, but it would, I think, be unscientific to leave it out of consideration altogether. Theologians are, of course, sharply divided as to whether free-will exists or not. All Catholics and some Protestants and Mohammedans believe in it. Calvinists and most Mohammedans reject it as being a limitation on the omnipotence of God. If we regard the laws of

nature as the manifestation of God's will, this point of view is essentially that of most scientists to-day.

Professor Lange's answer to the question is, I think, decisive. The human characteristics with which he is concerned are those moral decisions which land us in or out of prison. Given two twins derived from the same fertilized egg, and brought up together, at least in early childhood, what degree of similarity is shown in their moral decisions? He investigated thirteen pairs in which one brother or sister was a criminal. In ten out of the thirteen the other was a criminal, too. Professor Lange, like a true scientist, has weighed the evidence against himself. I think that, on the evidence provided in his book, he might quite well have excluded his last pair, the Landsknecht brothers, of whom only one was a criminal, from his monozygotic twins, and classed them with the Garkoch brothers as doubtful cases. The Maat brothers, of whom one had been convicted and the other was a fugitive from justice, might also have been omitted on the ground of incomplete information. This would leave us with nine concordant and two discordant pairs, a rather more striking degree of resemblance than that actually found. When we examine the two undeniable cases of monozygotic pairs where one only was a criminal, we find that in each

case the criminal brother had suffered from a severe head injury. In the case of the other discordant pair, the Landsknechts, one, but not the other, suffered from goiter, a disease which undoubtedly alters the character.

To sum up, an analysis of the thirteen cases shows not the faintest evidence of freedom of the will in the ordinary sense of that word. A man of a certain constitution, put in a certain environment, will be a criminal. Taking the record of any criminal, we could predict the behavior of a monozygotic twin placed in the same environment. *Crime is destiny*. The defenders of indeterminism could at most claim that free-will very occasionally tipped the balance over, and thus counted for something in the long run, but not often enough for its effects to appear in a series of a dozen cases taken at random. And a free-will of this kind is clearly of no practical importance.

But is this resemblance largely caused by environment? What sort of similarity is found in the conduct of twins who, though born and bred together and therefore sharing a similar environment since their conception, have arisen from two separate eggs, and carry different sets of genes? Professor Lange examined seventeen such pairs, of which one was a criminal. In only two cases was the other a criminal as well, and

one of these pairs, the Garkochs, may really have been monozygotic. They have been included here because Professor Lange quite rightly weighs the evidence against his own theory. Putting the figures thus:

	Concordant	*Discordant*
Monozygotic	10	3
Dizygotic	2	15

the odds that they are significant of a real difference are about seven thousand to one. This is an underestimate, because all the known facts about twins point in the same direction. Clearly to obtain identical behavior one must have not only the same ancestry and the same environment, but the same set of genes dealt out by segregation.

To get a complete story we should want yet a third class of records, namely of monozygotic twins who had been separated from early infancy. These are much harder to obtain. So far as I know only four such cases have been investigated, namely, by Professors Muller, of Austin, Texas, and Newman, of Chicago, whose results are published in the *Journal of Heredity*. Unfortunately none of the eight people concerned were criminals. But as a result of their different upbringings they did show markedly greater divergences, both of character and intellect, than extreme believers in the om-

nipotence of "heredity" would care to admit. In spite of this the resemblances were striking. As Professor Lange states, about half his criminals, in the concordant dizygotic pairs, would probably have grown up into decent or at least harmless citizens if placed in suitable environments. It is difficult to imagine that the Lauterbachs or Heufelders could easily have been turned into pillars of society. But the case of Luitpold Schweizer shows that the influence of a woman can redeem one of a pair of criminals, and could, in all probability, have kept him from crime.

On the whole Professor Lange preserves an extraordinarily objective attitude to his subject, but even he is human, as appears from the emotions aroused in him by the Maat brothers and by motor cyclists. And it must be emphasized that the special views as to the nature of the breakdown which occurs in criminals, as stated in the Conclusion, are not supported by the same weight of evidence as his main thesis. Again, his views on the importance of alcoholism as a factor in crime are probably true for Bavaria, where beer is consumed in quantities whose mere mention would ruin any reputation which I may have for accuracy. But it is equally clear that in England, which has dealt pretty successfully with the problem of alcohol, its consumption is

not a major cause of criminal behavior. In the United States the connection may well be closer.

What would be the effect on human conduct if the view that crime is destiny were generally adopted? Supporters of indeterminism state that a belief in fatalism should logically yield to a blind acceptance of events and a refusal to struggle either against external circumstances or defects of character. I cannot myself see the cogency of this view. My will may not be free in certain senses of that word, but it is at least my own. I regard my character and my environment as equally predestined, and get quite a lot of quiet fun out of the attempt to prove that the former is the more important. As a matter of historical fact fatalism does not conduce to weakness of will. The opposite is true. Among the ranks of the fatalists must be reckoned Mohammed and his successors, who conquered from the Atlantic to the Indus in a century, the leaders of the Reformation, the founders of the New England states, Napoleon, Lenin and Trotsky. Clearly, a belief in destiny is rather a help than a hindrance to a character already strong.

But, it is often urged, the man of weak will becomes still weaker if he believes that his failures are predestined. I do not think that this is the fact. Quite as

often a man who recognizes his weaknesses arranges his life so as to avoid situations which he knows he cannot face. Mr. Smith does not frequent places where he is offered drink, because he knows he cannot resist it. For a similar reason Mr. Jones avoids ladies who say that their husbands misunderstand them. We all have our weak spots, and it is well worth sowing a few wild oats if we can find out what they are, and act upon the knowledge. The consistent believer in free-will repents, and hopes that his will may keep him out of the same sin in the future. The intelligent fatalist regards his lapses with a certain tolerance, but acts on the knowledge of his own character which he gains through them.

This point of view is well borne out by a comparison of Catholic and non-Catholic Europeans. The former believe in free-will and the duty of periodic repentance. They believe that the one real evil is sin, that is to say, a bad will. The latter, whether Protestants or free-thinkers, mostly believe that there are other evils besides sin, for example, poverty, disease, and war. They are often determinists, and are not in the habit of confessing their sins. They believe that evil can be fought, not only by working on the individual will, but by social legislation. For them good conduct is worth while, even if it is brought about by legislation, and

not by a change of heart. And their beliefs have, as a matter of fact, been pretty successful in practice. The criminal statistics of England and Wales are rather striking in this respect. It is not known what proportion of the population are Catholics. The members of that organization claim 8 per cent, but under 5 per cent of marriages are celebrated with Catholic rites, although Catholics who marry out of their religion are commanded to do so in a Catholic church, and generally comply. But 15 per cent of our criminals are Catholics. So a Catholic is at least twice as likely to become a criminal as a member of another religion or of none. This is not a very good advertisement for the value of the belief in free-will as a practical guide to conduct. Catholic apologists like Mr. Chesterton dismiss facts like those brought forward by Professor Lange as "Cruel stories . . . of curse in bone and kin." Unfortunately the stories happen to be true. You cannot overcome evils by saying that they do not exist.

So much for the individual. But what would be our attitude to the errors of our fellows if we adopted a strict determinism as a general view of life? To answer that question we must first remember an elementary fact. Praise and blame, which are very powerful social motives, are largely reserved for those sides of conduct

which they can in fact influence. We blame people for being lazy or vicious, and this does on the whole have an effect in making them more industrious and sober. We do not blame them for being stupid or physically weak, and it would be useless to do so. But the fact that certain sides of conduct can be influenced in this way need not lead us into dubious metaphysics. The determinist will go on blaming his erring brother, but the blame will be more than half pity. And he will avoid moral indignation. I find certain kinds of conduct in others disgusting, but there is no reason why I should lose my temper about them. And I know that an attitude of moral indignation is peculiarly ineffective in bringing about a change of heart in others. On the contrary, it is an ideal excuse for cruelty. The newspapers are full of letters from virtuous persons who demand corporal punishment for such offenses as cruelty to animals or children. Their writers do not seem to realize that they are putting themselves on the moral level of those they condemn.

We have got to reshape our attitude to evil. An acceptance of the results of such work as that of Professor Lange will lead us to realize that every evil has a cause. If we desire that the fight against evil should be more successful in the future than it has been in the

past, our first duty is to find out these causes; and a perusal of "Crime and Destiny" will make it clear that for that task we need every resource of science. Until we know very much more than any one knows to-day we shall be working in the dark. But no one in our generation has done more to dispel that darkness than Professor Lange.

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PREFACE

In giving this little book the title *Crime as Destiny*[1] I am aware that I shall challenge much opposition. I am not thinking of the fact that the approach indicated may appear to some unprofitable for a sober investigation; that I take for granted. I expect it rather from those whose views on life are diametrically opposed to the conception of crime implied by this title. But the biologist, and even more the doctor who has to deal with the individual criminal, cannot help again and again seeing fate in crime, stronger than the free-will of the individual. The natural tendencies one is born with, the surrounding world he grows up in, these are essentially destiny, and it is also destiny by which environment, with its countless influences, works to form natural tendencies into one whole.

[1] The literal translation of the German title, *Verbrechen als Schicksal.*

Consequently, in dealing with the individual criminal the doctor will always consider his natural tendencies first, that unalterable material which so often breaks down all efforts to help and which forces one to consider criminal conduct as so many various symptoms of an abnormal constitution.

This view of the criminal, however, is not by any means common to all medical men; it is not the "natural one"—we all carry far too many preconceived notions about with us—and it falls short of the entire outlook on the problem of crime. The doctor has not alone to serve the individual, he is confronted with the general problem as well; that of public interest as a whole. If we are unable to help the individual criminal, we must ask ourselves whether it is not possible to safeguard the public and at the same time to spare the individual the necessity for suffering. Consequently we can afford to question the validity of this title. We need argument on both sides. But we may still hope that it will be possible in future to prevent the birth of a large number of people whose natural tendencies turn them into criminals under our present system.

At the same time it is apparent—in another sense entirely—that crime cannot be construed as simple destiny. Present conditions and especially the steps we

take for the prevention of crime are not unalterable, and I think that changes in this field could prevent more than one crime. In a double sense, therefore, fate is in our hands.

But these are questions which should not be developed too far. No problems will be solved in this survey. Rather the purpose is to shed light on facts which demand our thorough consideration. Since these matters concern not only medical men, but the general public as well, I have confined myself to the simplest medical terms and have expressed myself in the most direct manner possible. The real importance of this little book lies in the problem it raises and the individual destinies it describes, and not in what I myself have added thereto. I hope it will arouse a deeper insight and at the same time pave the way to betterment.

I wish here to express special gratitude to Dr. Degen of the Bavarian Ministry of Justice and Dr. Viernstein, Director of the Institute for Criminal Biology at Straubing Prison, who have assisted this investigation in every possible way. Without the Institute for Criminal Biology and the organization connected with it, this research would hardly have been possible as matters stand to-day.

Munich, September 15, 1928. JOHANNES LANGE.

INTRODUCTION

"It would be an improvement in our present system of justice if every year a lottery were held among all citizens of this free land of ours to decide who should go to prison and who should not. The result would represent just as impartial a form of justice as the one we now have, and would also give each of us an opportunity for once to be punished and reformed as a miserable sinner. God would keep an eye on the matter and would take care that even those who had not drawn prison as their lot would get what they deserved." Thus writes Judge Lindsey from his experience in American children's courts, and according to the accounts he has given of his somewhat unlikely cases, he ought to know. God, before whom we are all guilty, is his witness, and for all of us whose lives are

poised between mercy and hell, Judge Lindsey's words should certainly have a deep meaning. To the many who have a perfectly clear insight into the deeper background of their conduct and who have nevertheless been unable to make the proper adjustment, he offers little solace.

In this country as well as in America, many earnest people incline to views which approximate those of Judge Lindsey. According to such views the criminal is distinguished from the mass of humanity not by the stock he springs from, but by accidental and obscure circumstances which dictate his destiny. The burden of the blame is laid on experiences in early childhood and unhappy educational influences. From this point of view, society is the real malefactor. The criminal himself is a martyr who only needs our keenest sympathy as well as help, education, and training, to become as good a citizen as any one else.

"Everything is good that comes from the hands of the Creator; everything is perverted by the hands of men." This famous statement of Rousseau's is accepted by more people to-day than at any time since it was written.

There were times when people thought otherwise and even to-day very few would agree unconditionally with

Judge Lindsey. The view that human beings are intrinsically quite different from one another and that the environment given them by fate has but small importance in the development of personality is accepted by some serious people without question. Galton once used the example of the cuckoo, who sings the same song the world over although his eggs are laid in totally dissimilar nests. The "continuous, merciless march of the hidden weaknesses in our physical nature through sickness to death," reflected also in the spiritual sphere, was the end reached by Galton's investigations, and he considers it a fair question to ask whether environmental influences have any part at all in the development of personality apart from the fact that they open the doors on professional knowledge. "One cannot avoid the conclusion that heredity has an enormously greater weight than environment when the differences in the latter are simply those commonly found to exist between persons of the same class and the same country." Galton does not actually refer to the problem of the criminal, but it is indubitable that if his conclusions were correct they would have great importance in the field of criminology.

Such widely differentiated points of view are only possible where emotional considerations definitely in-

fluence the judgment. The whole problem of crime is complicated by our emotional outlook on it. Moral, religious, ethical, and political considerations color the question before we have even looked into the facts. Any one of these considerations by itself would lead to its own undeniable conclusions, leaving us still the whole mass of contradiction with which to deal. Galileo denied an incontrovertible fact before the religious tribunal, and the earth remained as it had been—at the center of the universe. Here, however, in the problem of the criminal, even the facts are not completely clear. We have a vast accumulation of evidence, but nothing conclusive.

We know that there is a quantitative relationship between certain social phenomena and crime. For example, the number of crimes against property rises during bad economic periods. Crimes of violence and sexual crimes have a definite yearly and perhaps weekly curve, due to external causes, some of which we know. Outward influences, therefore, are certainly not without importance as causes of crime. On the other hand, we know criminal families whose history has been traced for several generations and in whom the results of bad as well as good blood are distinctly traceable. It has long ago been proved that hardened criminals

are often descended from criminal parents or have numerous criminal relations. We also know that hereditary taints, such as mental diseases, and particularly alcoholism and psychopathic disturbances, are very common in criminals and that many of them are themselves mentally sick or otherwise abnormal. We know types of so little intelligence and so lacking in all social feeling that sooner or later they must necessarily come up against the law. Owing to the importance of this fact, the chief interest in the investigation of crime has shifted during recent years more and more from the deed to the doer. But in spite of this, the controversy as to whether heredity or environment is mostly responsible for crime has not been settled. Lombroso's dream of "the born criminal," "the natural delinquent" as a special human type has been dreamed to a finish. Nothing remains of it except the sterile fact that a large number of criminals are in some way or other abnormal, like many other people who never come into conflict with the law at all. But beyond such general observations we have gone hardly a single step. However much we may talk about it, we still know nothing at all that would warrant optimism in our successful treatment of the majority of criminals.

From the civilized point of view, this is far from a

satisfactory outlook. Decisions of the most far-reaching importance are made quite blindly. We erect new legal codes without having tackled the basic questions at all seriously. We are getting rid of the concept of punishment. We take the most comprehensive precautions to safeguard society, we sterilize thousands of criminals, and we claim protection for a number of others on the grounds of low powers of self-control which make them a danger to society, while we cannot know clearly who should be sterilized or who should be permanently protected. Furthermore, we have not even the equipment to collect and investigate the real basic material which should precede any such measures.

That is the general position to-day, and yet the least we can do is to distinguish between a right and a false attitude to the problem. Are we going to take a blind risk that in the future justice shall become less and less secure, that criminal tendencies (if there really are such things) shall be propagated without check, or shall we on the other hand destroy hereditary material which we cannot replace? Must we decide the question whether or not to abolish the death penalty entirely from the point of view of political expediency? The very least that civilized society owes itself is the limit of its effort in clearing up this problem.

It is true, of course, that the seeds of reform have been planted here and there. A few educationalists have set themselves to deal with young law-breakers partly through professional interest, partly through sympathy blended with such high ideals and so much self-sacrifice that when they have done all they can they will still put down failure to their own inadequacy rather than to that of their charges. "We must devote far more attention to education in childhood, tracing back the roots of the child's tendencies, in order to form his character according to his innate possibilities. We are still fumbling about far too much," was the answer given me by a very estimable lady when I ventured to criticize some of her work on the grounds that she had made too much of inborn traits. If such humanists had their way, every difficult adolescent would have more than one permanent guide to look after him, even though it were not at all certain that the trouble taken would spell success. It is quite beyond us at present to predict the adjustment of any given individual to social conditions.

As a preliminary to all intelligent measures we need a wide and deep knowledge of criminals. In this field the State, with its vast machinery and material, can do decisive work. And this task has been begun in a

few places. Above all I must mention the Bavarian Ministry of Justice, which, in spite of opposition, has installed at Dr. Degen's instigation the Institute for Criminal Biology at Straubing Prison. Here are collected as many criminal records as possible under thorough supervision of the prison doctors in order to lay the basis for true knowledge. The number of investigators is small and the investigations must be made in addition to routine work which takes up almost all of the doctors' time. There is a dearth of men and means to make full use of the material collected, and with a curious failure to realize the importance of this work, the State fails to provide money to improve the situation. Yet so much has been done that to criticize seems petty. The loudest opponents have the fewest facts to support them. Their own proposals can only be tested by the use of a mass of material which can be procured solely by the methods they attack. But it is a good sign that, in spite of criticism, many states are following the Bavarian example and similar experiments in other directions are being made.

Only when we have collected and studied a really comprehensive mass of material shall we be able to deal fairly with criminals. Until then we must go warily along the road on which we have only started—the

road to clearing up basic questions more definitely than has hitherto been possible. I refer here, to the so-called "twin method" and the light it has shed on the criminal career.

CRIME AND DESTINY

THE TWIN METHOD

Twins are pairs of children, of the same sex or of opposite sexes, born together and in the majority of cases growing up together. In the decisive years of development they have had common experiences and have been subject to common educational influences. In addition to the class of twins who resemble one another physically and characteristically, there is a second class who neither look nor behave alike.

The most famous example of the latter sort is Jacob and Esau, the sons of Isaac and Rebecca. They not only differed in appearance, but in their tastes and characters as well. Esau's skin was red and coarse; Jacob's fair and smooth. They had different voices and different smells. Esau was a hunter—rough, straightforward, uncontrolled, violent-tempered, and simple—

who married wives of a lower class, often against his father's orders. Jacob was a shepherd—well-spoken, artful, lying, slyly watchful of his inheritance, and at the same time hard, moody, and unjust. In choosing his brides he was cautious and scrupulous. The brothers were as unlike one another as any two people could possibly be. Twins of different characteristics, such as Jacob and Esau, are called dizygotic twins and there is good reason to suppose that they have been born from two ova which were simultaneously fertilized. Following the laws of their innate tendencies, they may resemble each other, or differ from each other to the same degree as any brothers and sisters.

On the other hand, there are twins of the same sex who look so alike that it is almost impossible to tell them apart and whose personalities are practically identical. According to general opinion, they have both sprung from one and the same fertilized egg and have therefore the same hereditary disposition. These are called monozygotic twins. A well-known example in literature is the Weidelich brothers in Gottfried Keller's "Martin Salander," who, I suspect, were drawn from life.They were as like as two peas and their behavior was identical. Independently, both committed deceptions at the same time and in the same way, and

circumstances alone accounted for the slight discrepancy in their appearances.

The first person to think of using monozygotic and dizygotic twins to solve the problem of heredity and environment was Galton, who in 1876 published conclusions which are still important to-day. He chose two different lines of investigation, taking first very similar, *i.e.*, dizygotic twins, in order to discover whether the same outward influences increased their resemblance. He came to the conclusion already mentioned, that heredity has a far greater influence than environment. Monozygotic twins seldom develop differently, and if they do the difference is not due to "free-will." This was never denied by Galton's numerous informants among the clergy, whose outlook on life scarcely included a "necessitarian view." On the other hand, similar experiences do not increase the resemblance between dizygotic twins.

Further investigation has shown more and more clearly that twins who resemble each other markedly in physiognomy share a large number of definite characteristics in addition, such as the color and texture of hair, eye color, skin color, distribution of body hair, etc., whereas with dizygotic twins these characteristics are like those of other brothers and sisters, *i.e.*, they

are very seldom exactly similar, or if some may be, the whole group never are. Furthermore, it was found that monozygotic twins always had the same hereditary diseases or else were both entirely free from family taints, whereas non-identical twins were in this respect like other brothers and sisters. It is inborn tendencies which control the appearance of hereditary diseases, and inborn tendencies are exactly the same in monozygotic twins, but different in the dizygotic pairs. In the case of the latter, in view of their similar parentage about half the innate tendencies are the same.

Now there are diseases which are not exclusively due to heredity, but in whose case outward circumstances play an important rôle. With regard to these, monozygotic and dizygotic twins show characteristic differences. The greater the importance of heredity in such cases, the more closely each of a given pair of monozygotic twins will resemble one another in behavior; as the importance of heredity is reduced, the behavior of monozygotic twins will resemble that of two or more children born at the same time from separately fertilized ova.

The resemblances between monozygotic twins do not stop at physical characteristics or diseases; there are remarkable resemblances on the mental plane. It is

rare to find human beings who are really identical from this point of view—for example, their writing is generally different—but it has been found that exactly similar attitudes on the part of monozygotic twins towards essential matters, such as a career or marriage, or their general relationship to their environment, are extremely common. Here again similar heredity plays its part. Hereditary nervous and mental troubles affect *both* of a pair of monozygotic twins, or else both escape them.

All this justifies us in using the results obtained in the cases of twins to examine the question whether, and if so to what extent, experiences of the most varied sort are determined by our hereditary traits. Siemens, especially, has systematically and successfully used this method. Absolute agreement in the case of closely resembling twins substantiates the view that heredity is a chief or preponderant factor. According to how much the behavior of hereditarily identical twins differs, by just so much may the influence of heredity in determining our fate be discounted.

THE TWIN METHOD AND CRIME

It was fairly obvious that the twin method would be useful in determining the influence of inherited tendencies in the field of crime. If the hereditary make-up had no importance, a comparison between monozygotic and dizygotic pairs of twins ought to show no differences. The agreement between the behavior of monozygotic twins would indicate the importance of heredity. The lack of agreement would throw the stress on environment. Finally, we could compare the behavior of dizygotic twins with that of other brothers and sisters. Since environmental influences can only be considered closely similar in the case of those who have grown up together, the importance of environment would be increased in proportion if, in comparison with other brothers and sisters, dizygotic twins showed a closer agreement as far as crime was concerned.

Now twins are not very common. Roughly speaking, for one pair born there are eighty ordinary births. In addition, about forty per cent die, a far higher mortality rate than in the case of average children, owing to weakness in infancy. The only twins considered suitable for our investigation were those old enough to be prosecuted by the law where *both* of the pair were alive, for it very often happens that one or the other twin dies young. Brother and sister pairs did not count in our investigation, as it is well known that the differences between the sexes as far as crime goes is very great. Thus we had to find one of a pair of the same sex who was old enough to come in conflict with the law, who had been imprisoned, and whose twin was still living.

The material was provided by the records of the Institute for Criminal Biology. Furthermore, at our request, the Bavarian Ministry of Justice ordered that all prisoners in Bavarian prisons who were twins should be reported and examined. We also asked for such prisoners as had twins among their brothers and sisters old enough to be prosecuted. Finally, I looked among the psychopathic patients of the Genealogical Department of the German Psychiatric Institute for twins who had been imprisoned. I examined all twins whom

I met in the course of my hospital duties for criminal records. All who fulfilled the above-mentioned conditions were taken as subjects.

First, the criminal records of the subjects themselves and of their twins were examined. Then I looked up those twins who were still in prison in order to examine them as closely as might be necessary. In their cases and in those of the other subjects we began a careful investigation of resemblances and previous histories. Police records and court sentences were, of course, examined at the same time. These as well as a good many civil documents were put at my disposal. On various pretexts I got some of the criminal twins to come for interviews to my consulting-room; others I visited at their homes in a variety of places.

All investigations had to be made with the greatest care, as in no case could we divulge the source of the addresses of our subjects or the reasons for the questions asked. In order not to prejudice the work, I did not even inform my helpers of what I was really after. Whenever I suspected myself of becoming prejudiced, I brought in other helpers, whom I entrusted with clearing up the question of personal resemblance, without, however, informing them of the criminal records.

In this way I believe I did all that was possible to keep the investigation free from subjective influence.

In a large number of cases I have exact measurements; in almost all of them several photographs; in a great many, duplicate observations as well as finger-prints. In three cases it happened that twins who had been summoned to my consulting-room for other alleged reasons told me spontaneously in the course of a prolonged conversation about their conflicts with the law. In other cases this did not happen and even in asking general questions I met with strong resistance. One or two pairs resisted all attempts at investigation, and gave either the most superficial or else unsatisfactory information. In still other cases the question of derivation (monozygotic or dizygotic) could not be cleared up satisfactorily owing to various difficulties. These cases I shall discuss later.

Thirty-seven pairs of twins were located and examined in this way. In addition there were two pairs, about whom I gathered a great deal of information, but whose background could not be verified. The total of thirty-seven included fifteen monozygotic and twenty-two dizygotic pairs.

In two cases of monozygotic pairs and five of

dizygotic neither twin had been imprisoned—these were pairs discovered among the brothers and sisters of ordinary prisoners and have nothing to do with our investigation. This leaves us with thirty pairs, thirteen monozygotic and seventeen dizygotic, of which one of each pair, *i.e.*, the subject first investigated, had been imprisoned.

Among the thirteen monozygotic pairs the second twin was also imprisoned in ten cases. Among the seventeen dizygotic pairs the second twin had been imprisoned in only two cases. *This leads us to the following ing conclusion: as far as crime is concerned monozygotic twins on the whole react in a definitely similar manner, dizygotic twins behave quite differently.* If, therefore, we attach importance to the twin method of investigation, we must admit that so far as the *causes of crime are concerned inherited tendencies play a preponderant part.*

One pair of dizygotic twins, both of whom were imprisoned, I should really place with the monozygotics. Two separate and reliable investigators took measurements which, together with photographs, showed complete agreement in unusual bodily characteristics, complexion, and so on. I am not including them because investigation revealed that the twins were never taken

for one another. This might be due to differences caused by environmental influences, to a different shape of the skull or the jaw-line, but I cannot be sure of it. I therefore prefer to leave them out.

I should like, however, to mention two other pairs not included in the investigation. The first of these were twins of twenty-three years of age, one of whom stabbed the other to death. No photographs of the victim existed. Their relatives, lacking in general intelligence, declared that there was a close resemblance between the two brothers. The record of the twin who was killed was apparently clean. But he was constantly threatening his twin, his other brothers and sisters, even his mother, with a knife, and like the survivor, was a thorough nuisance.

Both brothers were feeble-minded, the survivor slightly more so than the victim; both were hard of hearing and short-sighted. The living one was rather better-tempered and also more foolish. Both had had many illnesses and had been badly knocked about by their drunken father. I examined the survivor and found that there were still scars on his head. These twins were almost certainly monozygotic and should be classified with those in that category whose behavior agrees.

The other pair were girls, now about twenty-four years old. Here are their records:

ANNA:

1. 1920—Professional prostitution .. 2 weeks' detention
2. 1922—Theft .....14 days' imprisonment
3. 1924—Swindling ..... 4 weeks' imprisonment
4. 1924—Giving false information as to identity .....14 days' detention

MARIA:

1. 1921—Theft ..... 5 days' imprisonment
2. 1922—Theft ..... 3 weeks' imprisonment

In this case the results of investigation were meager. The twins themselves could not be interviewed. Their parents did not reply to letters sent them. The records of the hospital where Anna was taken were lost. The reformatories to which both were sent could give us no information. We received helpful and detailed information from their birthplace, but the twins had lived there for a short time only. We do know that both were of low intelligence and were very often ill, and that they were apparently not extremely alike. One of them had epileptic attacks. We have a clinical record of one, but not much can be learned from it. Finally, we know that the mother was a warehouse thief and systematically taught the children to steal. This fact makes them

at once unsuitable as material, in any case while they were still young. If classified at all on these facts, they would have to be added to the dizygotics of similar behavior.

In passing I shall touch very briefly on the brother and sister pairs about whom we accidentally got some information. In nine cases the twin brother was sentenced but not the twin sister. In one case the twin sister was imprisoned several times for theft and swindling and was finally given four years for fraud. Her twin brother, who was business manager of a large hotel, once received a fine during the inflation period for putting up his prices contrary to the law; he had raised the price of beer one day earlier than the law dictated. In other ways his conduct was exemplary, and he felt he had been unjustly sentenced as he claimed to have made a mistake. In the last case, that of triplets sixteen years old, the sister was punished with eight days' detention for staying away from school, while the two brothers had clean records.

If, therefore, we omit all the last-named as having too little bearing on our problem, the result would be as follows:

Among thirteen monozygotic pairs, ten would agree

and three would disagree. Among thirty dizygotic pairs, five would agree and twenty-five would disagree.

If we distributed them according to the wider possibilities, we should get the following proportions:

Of fifteen monozygotic pairs, twelve would agree and three would disagree. Of twenty-eight dizygotic pairs, two would agree and twenty-six would disagree.

But these changes would scarcely affect the situation in its general bearings.

If we took only the cases of which we are certain, we would reach the following result: that whereas seventy-seven per cent of monozygotic twins agree in their behavior in respect to crime, only about twelve per cent of the dizygotic twins do so. The proportions of these figures give some insight into environmental influences, as does the lack of complete agreement of the figures regarding the monozygotics. But such statistical arrangements have little value in complicated cases.

It is rather more important to see how dizygotic twins compare with ordinary brothers and sisters in respect to crime. If we found that among the dizygotic twins *both* were punished more often than ordinary brothers or sisters of criminals, we should have to allow

for the influence of environmental conditions more or less according to the degree of difference between expectations and the facts discovered. We obtained a number of facts on which to base such a comparison, for which we must thank the Institute of Criminal Biology and its Director, Dr. Viernstein. In this case we were dealing exclusively with prisoners at Straubing, homogeneous material consisting entirely of males. To begin with, all the prisoners of a given year, *i.e.*, 428, were questioned with regard to criminal brothers or sisters. These were found in 58 cases. The number of brothers and sisters was 83. From this we subtracted the females, as we were only examining relations of the same sex. There were 12, which left us with 71 cases of males.

We then investigated the fertility of the families of a series of 200 prisoners born in wedlock. Including the criminals themselves, this gave us 1,546 children, from which we subtracted those who had died in infancy. Following Warstadt's calculations in infant mortality, we subtracted one in four, which left approximately 1,160 living children. Next the criminal subjects themselves had to be subtracted, which reduced the number for comparison to 960. As we were only concerned with males, the latter figure had to be halved.

But even the remaining figure, 480, was too high, as many prisoners were still quite young and many would have younger brothers not yet of an age to be sentenced. As we reckoned one-sixth for these, the final figures for comparison were 400 brothers for 200 convict subjects. In 428 families we found 71 secondary cases. According to this, among 400 brothers of criminals old enough to be prosecuted, we should expect 33 further criminals, *i.e.*, one law-breaker in 12 brothers. Among the dizygotic twins we had on the other hand 2 criminals, *i.e.*, about 1 in 8.5 for 17 pairs of twins.

The difference in the ratios: 12 and 8.5, does not weigh very heavily, although it could be interpreted as showing a certain amount of influence of an exactly similar environment. But this does not take us far enough. The percentage reckoned for criminal brothers is certainly far too small and for several reasons. The information regarding criminal brothers and sisters came chiefly from the prisoners themselves and from general inquiries of their local authorities, not from police authorities. According to our personal experience, such information is quite inadequate. The criminal records which we obtained in all the twin cases gave us, without exception, much more certain material on which to work, although even they were not always complete.

In the case of twins we were dealing for the most part with old offenders, and not with single misdemeanors, a fact which must be taken into consideration when consulting prison records. The proportion of criminal brothers of old offenders is considerably higher than the average. Finally, the small number of criminals in families who have twins is as marked as in the case of those ordinary families in which criminal cases occur (7.75 to 7.6). The average of criminal subjects is much smaller, although it is still very high in comparison with the average of the population, namely, 5.3. This difference counts also on the side of environment.

The comparison between dizygotic twins and ordinary criminal brothers and sisters therefore gave us the following result: *In the case of crime in dizygotics similar environment plays only a very small part.*

The material at Straubing Institute gave us information about 62 families in which twins were born in addition to the 36 pairs which were used for the investigation. They do not concern us, either because they were twins of different sexes or because one or both died in infancy. Among 15 prisoners belonging to the 62 pairs mentioned, the other twin was either of the opposite sex or had died.

At the time of the investigation there were about

3,500 records in the Institute, of which a great number were incomplete because they had not been kept according to the method which has since been introduced. A calculation of the number of twins among the prisoners cannot therefore give us a useful method in determining whether birth in pairs predisposes to crime. In general, among adults, it is safe to estimate that every fiftieth person is a twin. According to our assumptions, it would follow that about every seventieth *prisoner* is a twin, and this would mean that to be one is a deterrent against a criminal career, providing our ratios were correct. But as they were almost certainly based on incomplete records, this conclusion is not permissible. In 36 families containing twins and a known number of children there were 293 births, *i.e.*, 8.1 per family. Following this further, ordinary families would give us an average of 6.9. In comparison with the average size of families in the whole population to-day, that is a very large figure.

There were 60 criminals among the 293 children. If we deduct the subjects used in the investigation we still have 24 criminals in 255 children. Seventy-two of these, at least, died in infancy; 17 were not yet old enough for the purposes of the investigation. That left us for comparison 166 children, of whom about half

were female. Thus, among 90 children we ought to find about 24 criminals. Every fourth adult male, therefore, would come to grips with the law. We have previously shown that, according to our calculations, about every twelfth child in criminal families is a criminal. The difference is a clear expression of the special danger in the case of monozygotic twins. If we deduct this, we get a figure which compares favorably with that found above.

DIZYGOTIC TWINS

THE NORD AND GARKOCH BROTHERS

Let us consider, now, the dizygotic pairs whose records agree.

Of the brothers Nord born in 1887, Georg was first sentenced in 1905 to 2 days' imprisonment for theft. There followed in 1906, 1907, 1909, and 1910, sentences of 5 to 18 days' imprisonment for embezzlement, theft, swindling, and sexual offenses. In 1911 Georg received his first long sentence, when he was condemned to 14 months' imprisonment for a serious theft. Aside from detention for vagrancy, begging, being without identity papers, and giving false information, he had six more fairly heavy sentences for theft and swindling, ranging from one week's close arrest to 18 months' imprisonment, 18 months' and one week's imprisonment, 3 years' penal

servitude, 5 years' loss of civil rights with police supervision, 3 years' penal servitude, 5 years' loss of civil rights, and 3 years' close imprisonment. He served his last recorded sentence in 1925. There is a comment in the records which leads one to assume later crimes. Georg is now abroad, but not in Austria, where he knocked about for some time.

His "specialty" was to get himself apprenticed to a skilled workman and a few days later, to steal all the valuable possessions of the other apprentices during their time off. He then went away after carefully putting people off his track. Georg is a miserable physical specimen, inclined to be fat. He has a stupid expression and is quite dull.

Johann, his twin brother, is an entirely different person, tall and thin, cheerful, and temperamental. He is now a clerk in a local official's office, but his previous record is far from clean. He served 4 months' and 19 days' imprisonment, and 5 days' detention. This happened in 1911 and 1913. His crimes were theft—5 days' detention, theft—4 weeks' and 2 days' imprisonment, giving false information as well as swindling and stealing—10 days' imprisonment, theft and perjury—3 months and 2 days. All this happened in one year. Two years later he got 2 days or a fine of 6 marks for fraud.

I was unable to find out how he embarked on this series of crimes which came to such an abrupt end. When I went to the town in which Johann now works, I decided at the last moment not to pay him a visit to prevent arousing his suspicions. The suggestion of an acquaintance that his lapse was due to a temporary mental aberration, due to biological causes, is a fairly admissible one. But this is not at all certain. All the other brothers, except one, are very well off. They gave meager answers to my careful inquiries. They do not know the twins well, as they themselves are much older and left home early. This was also the case with the last available informant, another brother who had gone to the bad and who had served 5 years for desertion, and finally got 3 years' penal servitude for theft. The man could not be reached, and even if it had been possible to see him, one could not have relied on his information.

In spite of gaps, the report shows that the Nord twins are very different from one another, even in their criminal actions. One can hardly think of a greater contrast, considering the class from which they come, than between a clerk, who, in spite of his previous sentences, has been a respectable person for years, and a common vagrant and professional thief.

The second pair of concordant dizygotic twins, Erich

and Heinrich Garkoch, show certain differences in their social attitude, although possibly these are not so marked as in the previous case. The brothers, now 32 years old, come of a good family; their father and grandfather, if our information is correct, were minor civil servants. We find nothing derogatory about any of their relatives. Perhaps the father did not get on as well as his education would lead one to expect. It is more important to note that he died very young of a "stroke." This fact leads one to suspect syphilis, especially since the two children born before the twins, the first two children, died young. The twins themselves were sickly when small and the photographs of them in boyhood strengthen the suspicion of syphilis.

Erich, who was born first, was stronger than Heinrich. He was the better scholar and sometimes earned very good marks, although Heinrich was by no means a bad pupil. They never got on well together. After their military service examination they went to a technical college for five terms. Both served in the field during the war and were promoted to the rank of non-commissioned officers, but did not serve in the Infantry with its fatigues and dangers. Of the two, Erich possessed the greater endurance. Heinrich once had a light case of shell-shock, and after that was easily frightened. Neither

received a commission, nor a pension, and neither was wounded.

The twins were never really keen on their jobs. After the war Erich started a "technical office," but he does not seem to have done any appreciable amount of business. He was on very bad terms with his wife, whom he had married during the war, but never took any steps toward separation. In 1920 he began a love affair because, as he told his mother-in-law, he believed in changing partners. This was with a cook, to whom he was formally betrothed in her father's house, after which he made off with the whole of her savings and her complete trousseau, and in addition got large sums of money from her father and brother, the total amounting to about 20,000 marks. It is typical of Erich that he calmly allowed his wife to use all the articles in the trousseau of the new "bride." Later, he used his office, where patents were to be developed, to swindle all sorts of inventors out of sums of money which they paid him for the registration and working out of patents. Of course, no business was ever transacted in Erich's office, but he held off his victims with various pretexts, some of them extremely subtle. Finally, he bought a typewriter on the deferred payment plan and immediately raised money on it without continuing his payments. He was arrested for

giving false information, swindling, and embezzlement, and was sentenced for the first time in February, 1922, to 17 months' imprisonment. He was not deprived of his civil rights owing to his youth and to the fact that he had spent 4 years in his country's service. His good conduct while serving his sentence got him 3 months' remission. The impression he made on the officials who dealt with his case was most favorable.

On his release from prison he did not return to his former business but took on others of a more lucrative character. He became one of the swindlers of the inflation period, and was connected with a bank of bad reputation. He engaged in exchange swindles, and more particularly in selling mortgage deeds on rye. At the end of 1923 he snared a victim by promising him a large sum for mortgages without, of course, ever paying a penny. Later, he got hold of two more victims in the same way. Erich attracted these people by starting small deals in which he always paid up promptly in order to get them completely into his clutches. In addition, he sold a motorcycle for which he had not paid and for which he did not intend to pay. His behavior towards those he swindled must have been amazingly self-confident and audacious. The court noted that he had a most extraordinarily glib persuasiveness for a person

of his education. He could easily dazzle and deceive simple or inexperienced people. Erich was extremely quick-witted and wriggled like an eel out of difficult situations, unpleasant questions, and proven contradictions in his statements. He was very clever in covering up the weak points in his declarations.

In pronouncing judgment the court took particular exception to his constant cynical laughter and the lies he had told during the trial. Nevertheless, he managed to get his sentence reduced on appeal, owing to the fact that the prosecution knew quite clearly what was in the wind and were not entirely above suspicion themselves.

During his second imprisonment Erich again behaved well, but he did not make a good impression on his supervisors owing to his endless chatter, the small amount of work he accomplished, and his constant, probably insincere whining. They regarded him as a thorough rascal. And yet he managed to get various leaves of absence, once on the pretext that his mother had had a stroke. She is still alive to-day.

Heinrich seems to be of average intelligence, and appears good-natured, a little reserved, phlegmatic and commonplace. He most certainly lacks his brother's verbal facility.

There is no doubt that the brothers closely resemble

one another in their behavior and in their characters, although their temperaments are quite different. It is impossible to determine for certain whether they are dizygotics or monozygotics. They are alleged never to have been taken for one another although the resemblance in their portraits as children is very great and later on is still striking. Above all, there is a definite likeness in their physical make-up. Our information shows they have the same hair, skin, and eye color. Their physical measurements agree to an astonishing extent. They had the same illnesses in childhood and later on both were ill for a long time. One had rheumatism of the joints, the other suffered from a kidney disease. Taking into account the possibility of hereditary syphilis, the differences between them indicate monozygotism. In view of Heinrich's neurological symptoms, the assumption that this is true does not seem unjustified. Nevertheless we have classed this case with the dizygotics. Perhaps it really belongs in the uncertain group.

It is not necessary to emphasize the fact that according to their records there are considerable differences in the degree of criminality of Erich and Heinrich Garkoch. Erich's subtle swindles are not comparable with Heinrich's one chance lapse, which only got him a very light sentence. This might be due to the inequality of

their mentalities. But we cannot be sure of this. Heinrich had a bad reputation in his office, although nothing could be proved against him. If those suspicions were justified, he cannot have been so clumsy. But these are mere guesses, for I could not bring myself to ask for more detailed information from strangers since this might have done the man harm, as he now lives in a very small town. Heinrich himself was examined in full.

MONOZYGOTIC TWINS

In order to give my readers an opportunity to form their own judgment, I shall go into greater detail with reference to the monozygotic twins. But even here I have to keep within narrow limits and I have therefore decided not to give prolonged accounts of individual investigations and to confine my critical comments to one or two points only. I shall, however, give the life histories in greater detail, since the emphasis of this part of the book rests on these details. If my final observations are to be properly understood, this material must be read with care. Each one of these double phenomena is so interesting in itself, that a full presentation is imperative.

INVETERATE THIEVES
THE HEUFELDERS

THE grandfather and uncle of Adolph and August Heufelder were both drunkards. Their father did not drink, but he was bad-tempered and treated his sons roughly. At the same time he was serious, quiet, and given to fits of depression. Although he was more intelligent than his colleagues in his own profession, and made more use of his mind, he never knew what to do with himself. He got on well with his wife. In spite of being industrious and always in work, he remained in subordinate posts. Ten children were born, of whom seven lived, and the family was impoverished. The mother was a good, quiet, kind, warm-hearted woman, who adored the twins and always took their part against their father. Later on she managed to help them in the courts and on such occasions did not adhere too closely to the truth. She was slow-witted and never went out except for an occasional breath of air in the parks. Her children were devoted to her. The father, a painter by profession, had gout in later life and during his last six months showed some mental confusion. He died of gout and heart trouble in 1917; the mother died of

heart trouble in 1920. Neither of the parents, nor any of the other five brothers and sisters, had ever been sentenced. The latter are all slightly nervous people, but have got on in life and are kind to their unfortunate twin brothers. On one occasion, one of the sisters was suspected of aiding in an abortion, but the matter was not serious and she was not punished. A brother was unjustly suspected of receiving stolen goods, but it turned out that the real culprit was August and the brother's innocence was established.

Adolph was born an hour earlier than his twin. He was always the weaker and more delicate. During his school days he had pleurisy and in consequence missed an annual promotion. August was the more intelligent and got through school easily in spite of his laziness. Adolph in those days was the better boy, more the "mother's boy" type, while August was easily attracted to bad company. The twins never really harmed each other, but they were both selfish, excitable, quarrelsome, and incompatible. There was sure to be a fight if they were alone together for a minute. Thus they developed not merely independently, but in opposition to each other. As their physical resemblance always caused them to be confused at school, they were put into separate classes after their first year. The father could

not tell one from the other, nor could the grandmother; only their mother always knew which was which. Later, August had a fall which left him with a scar on his chin, by which people were able to tell the two apart.

In spite of the poverty of their home and their father's strictness, both twins have happy memories of their childhood. They were particularly fond of their mother but greatly respected their father and always emphasize his admirable qualities.

August was continually getting into trouble and being punished at school. He was disobedient, smoked, went about with bad comrades, and finally forged a certificate of absence. He never stuck to his trade of house-painting and as early as 1905 became a vagrant. Adolph also once ran away from his master, but the man arranged matters so that he could finish his apprenticeship. He was better at his job, while August showed his abilities in other directions.

August got into trouble before he became a vagrant, Adolph before the end of his apprenticeship. The latter was arrested for stealing wood—both brothers had been sent to the forest to get in wood for the winter—and August was given a suspended sentence for larceny.

CRIMINAL RECORDS

Adolph	August
1904: Detention for stealing wood, as above. Both sentenced on several occasions for begging. Dates no longer available, except the first on 5.3.05, 2 days' detention.	1904: Theft (storehouse), 5 days' detention.
1906: July, theft (leather apron), 1 week imprisonment. December, disturbance of domestic peace and theft, 18 days' imprisonment.	1906: May, theft, 1 month's imprisonment. May, indecency, theft, 6 months' and 8 days' imprisonment. December, disturbance of domestic peace, inclusive sentence, taking into account the two previous sentences, 7 months and 10 days.
1907: October, theft, 1 year's imprisonment.	1907: March and April, several thefts, 6 months' 10 days' imprisonment.
1909: May, theft, 3 months' imprisonment.	1908: Theft (bicycle), 1 year's imprisonment.
1910–1912: Military Service.	1909: December, 3 burglaries, 4 years' imprisonment, 5 years' loss of civil rights.

1913:
Thefts (bicycle, etc.), 5 months' imprisonment, 3 years' loss of civil rights.

1914:
At the front, prisoner, condemned to 5 years for theft.

1920:
Theft (three counts), grand larceny, condemned for these offenses to 14 years' penal servitude.

1914:
Theft (butcher's shop), 4 years' penal servitude, 5 years' loss of civil rights, police supervision.

1919:
Theft (bicycle), 2 years' imprisonment.

1921:
Theft, 4 years' imprisonment and 4 years' loss of civil rights.

1926:
Receiving stolen goods, 1 year's imprisonment.

1927:
Theft, 20 months' imprisonment.

The details of their criminal careers are as follows:

At the age of fourteen August was sentenced to 5 days' imprisonment for breaking into a building under construction, with another boy, and stealing iron material. When discovered he threw away the sack containing the stolen goods, lied emphatically, and only confessed when persuaded to do so by his comrade. As a result, his

parents turned him out of his home, and he wandered about, finally living with a butcher and his wife in Munich. He broke into several of their closets, chiefly to steal linen. During this time he roamed with other boys and once spent a night on a building site—the only time he ran up against his twin. It is typical of August that for a while he was the only one of the gang who escaped the law. In addition to his sentences for theft he received one for breach of domestic peace. Shortly afterwards, while wandering on an open road with a comrade, he met a little girl of 12, whom he suddenly attacked on the ground that she had laughed at his "prison shoes." He threw her down, pulled up her skirts, and tore a small necklace from her neck. When his companion protested, he released the struggling girl, and went off to pawn the necklace for a pot of beer. He was caught in a low saloon in Munich. At first he only admitted the theft and declared that it was merely by accident that he had pulled up the girl's skirts. However, fearing a sentence for rape, he changed his statement and pleaded guilty to assault. After his discharge from prison (7 months) he was arrested for begging on the high road. In 1908 he was suspected of having stolen a bicycle and the court judged him guilty. He himself protested that he had got the bicycle in exchange for

a suit which he was actually carrying at the time in question. He produced a witness, whose evidence, however, was ruled out because he was a fellow-prisoner August had known when serving an earlier sentence. The State Attorney asked for a sentence of 6 months, but the court gave him a year. During the following year he associated with the worst possible company. Accompanied by two very bad characters he broke into summer bungalows in the vicinity of the city, but failed to get off with anything of great value. The three had better luck when they broke into the home of the protector of one of them; they rifled his desk and took several hundred marks. When caught, August had no money left on him. However, he confessed at once to this robbery, although as usual, he denied his previous ones. On conviction he admitted them all. For the whole list of crimes he received a heavy sentence, 4 years' imprisonment, which he served in hospital as he was seriously ill. The next time he was caught affairs were pretty black for him. Four months after being let out he broke into a butcher's shop with another boy and stole quantities of meat and some small change. Fingerprint evidence proved him guilty but he refused to make a statement. His accomplice declared August was the ring-leader and when it came to his trial he made, as

usual, a full confession of his own free-will. For this crime he got 4 years' penal servitude. He was again seriously ill, but this brought no change in his character. He had to be sent home in custody, and still managed to cause a great deal of trouble during the last days of his confinement. He had not had prison punishment for a year previously, probably because he had managed to get himself removed to another place. While serving his sentence he was forbidden by the local authorities to return home, but had to be taken back there because no one knew what else to do with him. After getting home he met all efforts to turn him out, as well as various punishments, with passive resistance, always sending his mother to plead on his behalf. For the first time in his life he worked hard, earned something, and improved his knowledge in various directions. The revolution upset this regular existence. He joined the Red army, but did not commit any acts of violence; nothing could be proved against him although he was carefully watched, but he probably saw to it that his police record disappeared. In June, 1919, he was in trouble again. He stole a bicycle in a busy street and rode away on it, but was knocked off by an enterprising passer-by. After threatening his pursuer he escaped. He was caught because when he was knocked off the bicycle he had

dropped his pocket-book. He denied everything and declared that he had given his pocket-book to some one else to have his workman's card stamped, but in court he confessed as usual. He served two years for this offense. Next, with two accomplices, he carried out a well-planned and successfully executed theft in the wardrobe-rooms of a theater. His brother was suspected, almost certainly unjustly, of receiving the goods. Whereupon August protested, but declared he would make a statement only if his brother were completely exonerated. He refused to give the names of his companions. On one occasion he could not be understood as he had a toothache. Again he confessed at his trial and was sentenced to 4 years' imprisonment. On being discharged he tried to go straight and lived very carefully, but he was unsuccessful in finding work. After 7 months he was arrested once more for receiving stolen goods. This time it was a case of dress materials, which he had got from a friend who stole them, offering them for far less than their true value. At that time no other charges could be brought against August, but he was found to be a habitual frequenter of the lowest dens. As soon as he completed his sentence in June, 1927, the old game began again; he tried in vain to get work, boarded with an old convict who overcharged him, met another

professional criminal as badly off as himself, and with him started another series of small burglaries. They broke into several shops without much success. His pal was caught. Investigation revealed August's terrible plight—his rent swallowed all his relief funds, he simply could not get work because he had no Insurance Card and because his hands were not those of a workman. He was either dismissed from every job he got or denounced. Back he went to prison for 20 months. August, now 38 years of age, has since his 14th year spent 17 years and 10 months behind prison bars; 16 years since the age of 20. In the last 18 years he has never had 2 whole years of freedom.

Adolph was not a good scholar either, but he was a better boy than his brother and managed to keep out of prison for a few years longer, apart from the detention he got at the age of 14 for stealing wood. After running away once, he finished his apprenticeship with a master-painter. But at 16 he was already involved in two criminal prosecutions. He and another young man began stealing things of little value whenever they got the chance. When caught he denied everything vigorously, showing his true nature by complaining of his treatment during detention. He got one week's imprisonment which ran simultaneously with the sentence for the breaking

of domestic peace mentioned in August's record. After August had been forbidden his home, Adolph got a whole series of sentences for begging. Finally he received a heavy sentence of one year's imprisonment for acting as look-out during a big warehouse robbery. In this case was working again with the accomplice of his first theft, with whom he had been in prison. The affair had been planned in a low saloon which August also frequented from time to time. Adolph, who had taken to vagrancy at the end of his apprenticeship, went off again when he was out of prison. Before doing so, however, he was sentenced to 3 months' imprisonment for stealing wood, as a relapsed thief. The State Attorney himself protested against the prosecution, but was opposed by the forest administration. Adolph's sentence was the lightest allowed by law. He worked steadily for a time in Switzerland until he was recalled for military service. He himself says that this was the happiest period of his life. His Captain was a sensible man who did not let his record count against him. No serious trouble occurred, although he got 18 days' confinement to quarters for a minor breach of discipline. Shortly after his military service was completed, Adolph obtained good, steady work. But a few months later he was mixed up in a series of suspicious occurrences. He

was alleged to have stolen a large number of bicycles as well as money, paint, and molds from his workshop. He was particularly good at inventing all sorts of tales, and had managed very cleverly to pave the way so that his mother could make exonerating statements on his behalf with a clear conscience. In consequence his various crimes only got him a 5 months' sentence for stealing one bicycle. At that time Adolph had a serious drain on his finances for the support of his child out of wedlock. In spite of this, he gave an appearance of prosperity, especially on Sundays, and spent a great deal of money. It must be admitted that he worked hard, and outside his regular employment, did jobs of his own. After serving his last sentence he went back to Switzerland and did not return to Germany until the war broke out. He was early at the front and after a few weeks was slightly wounded and taken prisoner by the French—not altogether against his will, it was suspected. He had a bad time in prison camp. While trying to escape he stole a chicken and an overcoat, and perhaps that was not all. He was recaptured, severely punished, and sent to Morocco. It was much later that his circumstances improved and he became an orderly in an officers' prison camp. Nothing definite can be learned about this period because Adolph himself was our only informant. An

officer with whom he claimed to have been imprisoned could not remember him when questioned. Adolph boasts of having attempted to escape on many occasions and of having saved a child's life. It is certain that after the war he did escape from prison. He could not settle down to work. At first he was in hospital for a long time and on being discharged received a number of heavy sentences in rapid succession. One of his exploits, proved in the records, was kindly meant. In order to help an old fellow-prisoner who was being detained on remand, he committed a railroad theft, carefully "lost" an overcoat containing prepared letters in the carriage which he robbed, and as a result the other fellow was released. At this time, however, Adolph was having an affair with August's mistress, as his twin was in prison. He planned a robbery at the house where she was in service, in which he was assisted by an "official" of the revolutionary party, a former convict. While serving his sentence for this it was discovered that he had taken part in a robbery with violence. This came out through his own boasting, even to the lady he had robbed, of his experiences as a war prisoner. With another hopeless criminal he had attacked a woman and cruelly ill-treated and threatened her until she told where her money was hidden. The booty was small, but

the sentence of 14 years' penal servitude was a heavy one. He is at the present time serving it. It could not be proved, however, that he had taken part in other robberies which occurred in the same district at the same time. His possible accomplices in these affairs have since died. They were old burglars, one of whom committed suicide after a robbery involving murder. Adolph confessed, however, to a further shop robbery, apart from his railway theft, in which he claimed to have got away with valuable goods.

Both brothers are professional thieves and burglars, whose crimes, in so far as we know them, are of a rather similar nature. We must assume, in view of Adolph's various confessions in prison, that many of them have in all probability not come to light. Both twins began housebreaking and stealing at a very early age. August's offense against decency in his seventeenth year may have been due to puberty, as he informed me that his sexual life began about this time. There are no other crimes of this nature in his record. Both Adolph and August proved by their elaborate burglaries—Adolph breaking into a private house, August into a theater—that they were really professionals.

Nevertheless, there are definite differences. Adolph is apparently the more artful of the two, and goes about his

crimes in a more subtle way than August. The latter takes what opportunity presents without much reflection and commits more than one crime simply because chance puts it in his way. Adolph makes his own opportunities and often prepares an alibi in advance.

The war changed Adolph and made him harder, more brutal, hypocritical and anti-social. By that time August had become a confirmed burglar, resigned to his ineluctable destiny as a criminal. It gave him no particular pleasure; he had had enough of it and would have liked to get honest work. Adolph, on the other hand, enjoyed himself. In his railway robbery he almost showed a sense of humor (ordinarily foreign to him) and in his last serious robbery, a cold-blooded malevolence. It might not be far wrong to ascribe this to the influence of his long and demoralizing war imprisonment.

The brothers differed in their behavior under arrest and examination during detention. At the start they were alike; both denied everything and lied backwards and forwards. August at first invariably refused to make a statement, gradually found his tongue, and made a complete confession in court. He only refused information when he was shielding some one, which happened on several occasions. He never gave names nor

let any one else down—"honor among thieves." In one instance he obstinately refused to tell anything at all until his brother, who had been wrongly accused of receiving stolen goods, was exonerated.

Adolph, on the other hand, always denies everything, even when on trial, and only confesses when he is forced into a corner—and not always then. He still refuses to confess to his last robbery. He only admits his guilt when he thinks he can manage a change of prison by doing so, and find an opportunity to escape. It is true that once in 1920 he shielded his mistress and at the same time got a pal out of trouble. He committed the railroad theft in order to secure the release of a fellow-prisoner, but it was good business and later he gave the job away. He is not particular about letting down his accomplices, accuses the innocent, and tries every dodge to escape conviction. August sometimes flares up and loses control of himself when brought to judgment, but he never goes as far as Adolph, who once kept on his hat in court and had to be punished for persisting in this insolent behavior.

August admits that the police have to do their job, and is on fairly good terms with them; some of them seem to be well disposed towards him. Adolph hates the police and treats them rudely.

In prison both are exceptionally difficult owing to their excitability and emotional quirks. Both are full of grievances, quarrelsome, provocative, and paranoiac.

I should like to emphasize their similarities first. Both provoke quarrels; August began in 1913 as soon as he was put into a cell for three prisoners. A fight started immediately. A note in the records shows that a similar incident had occurred when he served an earlier sentence, but the complete records no longer exist. In 1926 Adolph fought with his cell-mate and had previously started a regular prison brawl, in which he had screamed wildly, and damaged his cell. As early as 1914 August was known to tremble with rage; Adolph still does so to-day. Both have had attacks of hysteria, August probably as a schoolboy, Adolph later on.

Each constantly complains of physical ailments which examination fails to reveal and they are never satisfied with their medical treatment. They complain of being incompetently or unfairly handled, become insolent and disobedient, and occasionally have to be reported by the doctor for punishment. They both suffer under detention and their excitability is intensified. They complain of sleeplessness and of symptoms in the chest for which no medical evidence can be found.

The letters of both twins have to be censored; one

letter after another must be withheld. They express themselves in the coarsest manner and fling about open and veiled accusations, exaggerations, and suspicions. They simply cannot stop the practice, although they know the letters will not be passed. They sometimes manage to vary their expressions. At the same time their mental troubles increase; both are obviously tormented by them, August especially.

Both argue from the particular to the general. During the war August addressed a comprehensive complaint to the ministry about the food in prison camp. Adolph proceeds in the same way about the causes of crime and the care of prisoners.

They have in common a paranoiac and querulous disposition, paranoiac in the narrower sense. August suspected deliberate conspiracy during his first long sentence. Even before this he believed his own allegation that the girl he attacked had laughed at his "prison shoes." In prison he felt that he had purposely been put in a cell adjoining that of a gossip so that he could be trapped talking; he invariably declares he is placed in a particularly bad group and is deliberately assigned to heavy work. During later detention he was given work he liked and then another equally agreeable

task, and finally another of which he could not complain. But he suspected all these changes!

"These constant changes, this continual learning of new things had something behind it. It seemed to me like a mad-house in which people are ranked according to their mental abilities. This searching and sorting tortured me. I thought to myself, why should I be specially favored with pleasant work? And then always another job. Then it occurred to me to ask for a change of job. The warder replied: 'I haven't anything else.' " Thus he wrote in a "Plea for Humane Treatment." And it is true that this did torture him. In the typical paranoiac manner he was always suspecting scorn or innuendoes which only his imagination could discover, in the kindest words—for example, those of the doctor. With one trouble and another his general attitude became more and more hostile. Yet August knew himself and could not help reproaching himself. In sleepless nights he worried and tormented his brain and often expressed his misery strikingly in a few words. He nevertheless maintained that prisoners were badgered and bullied, and that in addition to the sentence imposed by society, the officials privately wanted to revenge themselves on him and deliberately irritated him in order to involve him in extra prison punishment.

He claims to speak not merely for himself, but for prisoners in general. He never sticks to one thing or to one event. He hates many of the officials, but he always admits quite spontaneously that he may have made a mistake. If any one else suggests such a thing, however, he denies it. In these respects his attitude resembles more or less the usual point of view among prisoners. There is nothing exclusively personal about it, nothing of the progressive paranoiac in the narrow sense. It is thoughtful, discriminating, however ill he may be.

Adolph, too, considers himself badgered and now and then unfairly treated. He suspects derision and mockery and personal hatred. He suffers from a venereal disease and is offended by the least allusion to it, although he himself talks constantly of his ailment. Like his brother he has a general paranoiac attitude to everything connected with his sentence, but it does not go very deep and is not reflected in his personality as a whole. On the other hand, in connection with one particular series of events he had a definite paranoiac reaction which developed in two waves and finally sent him to the lunatic ward. In the fifth year of his last sentence he considered himself wrongly accused and unfairly treated by a hospital warden. He complained,

and when his complaints were rejected he continued to issue one accusation after another against the warder, the hospital, and the administration, made up of all manner of distortions and suggestions which he himself believed. In turn the administration, the State Attorney, the Ministry, a private attorney, the Prisoners' Aid Society, and again the State Attorney, Ministry, etc., were ceaselessly importuned. He became more and more excited; one prison punishment followed another; his paranoiac-querulous behavior developed more and more clearly. At length a very sensible attorney, formerly a fellow-soldier, used his personal influence and persuasion to pacify the harassed officials. But not for long. Adolph alleged that owing to maltreatment during imprisonment and then through various cures, he had lost his teeth. He wanted a new set of artificial teeth mounted on a gold plate, but instead was given a rubber one. This set, for which he had to give up his small prisoner's wages, did not fit. A new wave of querulousness was induced by this, which took precisely the same form, although slightly mitigated by a more lenient attitude on the part of the officials. He was moved to another institution and finally into the mental ward where, although he appeared more calm, he continued to fuss about his plate. In this case we have a regular

pathological paranoiac-querulous reaction. In addition to his being more temperamental than August, we must take into account the fact of his longer sentence. August was never imprisoned for so long a time and therefore his emotions did not reach the white heat that Adolph's did.

Here we have a definite difference in the brothers' behavior, which cannot, however, be put down exclusively to their personalities. The following will show how similarly they react in other circumstances.

At a time when August was just finishing a fairly long sentence his clothes had been sent to his mother, who, when asked for others, sent him by mistake those of his brother. During the last few days of imprisonment August was nervous, and on the day before his discharge refused to go to work. He then refused to put on his brother's clothes, got out of hand, and behaved abominably in every way. The wise prison governor was glad to be rid of him and instead of punishing him, sent him home in handcuffs to protect himself from August's threats.

Adolph, at the medical examination before his discharge, was impertinent to the doctor and was given two days' arrest. He threw his bread about the cell and when the warder remonstrated with him, said, "Perhaps

you would like a crumb?" This resulted in three days' further detention. When brought before the Governor he said, "I have known for a long time that here might, and not right, rules." Result, three more days in the cells. He managed in the course of two days to get eight days' additional sentence. Probably in similar circumstances August would have acted in the same way.

Both brothers, of course, received constant punishments for breach of prison discipline. They played various tricks—secured tobacco contrary to the rules, got food from outside, destroyed working material, were insolent to officials or libeled them, threatened their comrades and provoked quarrels. It is interesting to observe in August's case that his punishments increase towards the end of his sentences; in 1912, with one more year to run, no punishment; in 1913, three punishments, 22 days' close arrest in all. Then the difficulties he made in order to get transferred—twice in 1917 and again in 1925. Adolph's reactions are similar. One punishment in 1921, three in 1922, four in 1923, three in 1924, and nine in 1925 (his fifth year). Total, 108 days of special prison punishment. Soon after he was transferred.

The twins sometimes worked very well, but this did

not last long and they took every opportunity to shirk duties by alleging ill-health. Both often stopped work for days at a time for no obvious reason.

Apart from the differences in the development of their paranoia, the greatest dissimilarity between them appears in their respective attitudes to their environment and in the use they make of their free time. Adolph obviously needs human contacts. He is always talking and boasting of his war experiences; he must be the center of things and create a stir however much he has to work himself up in order to achieve this. When he is not talking, he is writing endless undisciplined, careless, and hastily composed papers. In this respect he is a complete extrovert. August is quite different. His first long sentence went a long way towards maturing him. He was brought in contact with the works of Greif, Heine, Goethe, and not only quotes them, but often understands them thoroughly—he believes he has something in common with Tasso. He longs for books and for pictures, and wants to learn languages, economics, and geography. He is most unhappy when he has nothing to think about and he really enjoys literature. His descriptive powers are constantly improving and are unusual for a man of his education whose opportunities are so limited. It is only when

he is excited that he expresses himself like Adolph, who, by the way, also tries to learn languages, but who has obviously no power of concentration.

There is no doubt that August is much the cleverer and more introspective of the two; Adolph is duller and more superficial.

Their handwriting is very similar and shows equal excitability. As their general behavior would lead one to expect, Adolph's is more rapid.

The first impression that strikes one on meeting them is their remarkable resemblance. All the surface appearances are the same, except that August is balder than his brother. They have the same unusual functional characteristics, the same plastic use of the hands in illustrating points of conversation. They show the same pallor at first, gradually coloring under the excitement of talk, and the increasing rate at which their words tumble out is most striking. Both complain of the same physical troubles.

August makes a more pleasant impression and is a much more complete personality. There is tragedy in the case of this clever, one might almost say profound creature, who, as he warms up to his subject, does not attempt to excuse any of his actions. He admits his own unscrupulousness, but sees the sins of society as

well. Guilt is a mere word to him; he knows better than to believe in it. For him all is fate and necessity. His description of his most recent experiences before going back to prison was so moving that both the prison doctor and I could not tear ourselves away from the recital. One cannot help admiring the self-discipline of this excitable, unhappy man. Emotionally, each incident that happens to him in the Institution affects him as if it were a link in a chain of deliberate pin-pricks; yet he tries to be objective, considers each event individually and from every possible interpretation, distinguishes between his emotional reactions and his cooler judgment, and whenever he can, tries to be guided by the latter. He does not suffer any the less because of this and is full of suspicion and bitterness. Even so, he is not without love for his fellow creatures. His is not a calculating nature.

Adolph is different. At one and the same time he is tearful and boastful, cold and calculating, ready with lies and excuses. He suffers too, but he does not admit his own guilt. He is always looking for excuses outside himself, injustices, and the ill-will of others towards him. He is uncontrolled, irritable, but at the same time wheedling. In all probability he was this way as a child but developed the traits further in the course of his

life. Adolph thinks only of himself; possibly August does the same to a degree, but makes allowances for others and for society in general. August often says "an old burglar," speaking of himself in the third person; Adolph always says "I."

August regards his irresponsibility as the cause of his criminality—"and the rest is fate," he says. He does not go into the question of how fate caused this irresponsibility to become gradually inevitable. Adolph assigns his lapses and his sentences to the social code, plus injustice, his judges' brutality, and the infamies of the police. He says nothing about himself. Neither of them blames his parents, although they emphasize their father's severity. Neither of them regards himself as a natural criminal or even a professional one. Both of them go wrong at this point. August has deeper insight. According to him, his parents were good and respectable people and so are his brothers and sisters; only he and his twin are different. However badly they got on together, however dissimilar they may have been in many ways, they are real twins down to the innate tendencies which caused them to go wrong—"literally the same," as August wrote to Adolph after a visit from me. At the same time one must not overlook the environmental conditions which made it impossible for

them to leave the path on which they had started.

The records of the Heufelder brothers must, like all other individual cases, be studied in detail. A summary, even if confined to the most important points, would have to reiterate all the facts over again. Let us repeat only a few of them. Physically Adolph and August are as like one another as two peas in a pod. Mentally, even to small details, they are equally similar. What mental differences there are, seem due simply to unlike temperaments. Adolph is livelier, more restless, less serious, and more extroverted. This accounts for a series of secondary differences. Their characters are almost identical. Both are explosive and high-strung, inclined to primitive reactions. They are paranoiac and at the same time irresponsible, humorless, and egocentric. Adolph is colder and almost entirely without human fellow-feelings, whereas August is inclined to affection. It is not worth while following out the similarities further, but it is important to notice how many differences in their behavior are due to small differences in character, although the former must be understood in connection with the influence of environmental circumstances. This is particularly the case when we consider August's exceptional development during his first comparatively long sentence. He became a quite

changed person, without, however, getting rid of his innate tendency to go wrong. Adolph never experienced a similar development.

There are definite differences in their criminal careers. They committed their crimes quite independently of each other. Adolph was rougher, but August showed that he too was capable of brutality when he committed a sexual assault as a youth. It is also worth emphasizing that according to a note in the records (which does not appear in the list of sentences) he once received a light sentence for assault and battery.

It is useless to try to ascertain in detail how each of them took to crime. Neither was work-shy in the narrower sense; as a rule they worked hard during their periods of liberty. The records of their brothers and sisters show that they were not driven to crime from the start by actual destitution. Irresponsibility is merely a word; later on we will deal further with this question.

Another important fact is the higher degree of unscrupulousness and brutality that Adolph revealed after he had been a prisoner of war. This was probably due to external influences. Let us keep in mind, however, that these influences supplement certain original inclinations in Adolph, as, for example, his cold-bloodedness, which differentiate him from August.

Emphasis should be placed on the different directions taken by the twins' paranoia which developed while serving their sentences. It gives us a clear picture of temperamental plus environmental influences, such as length of sentences and the respective attitudes of the officials.

These two brothers illustrate with particular clarity how essentials are definitely decided from within by an inborn law, but how environment and its various influences shape the same raw material into superficially different personalities.

THE WORK-SHY MEISTERS

GEORG and Ferdinand Meister, now 30 years old, have led fairly varied lives. Their parents separated many years ago, as their father was living with another woman. They were not divorced, however, and the father still supports his wife, although he continues to live with his mistress and is completely under her influence. Their mother is a quiet, kind-hearted woman who has not had an easy life. The parents' relatives are on the whole decent people. One of the mother's sisters had three illegitimate children, but by the same

father. One of the twins' sisters suffers from "nervous attacks."

From infancy the brothers could not be distinguished from one another. It is still obvious that they are twins. Ferdinand had rickets more severely than Georg and did not walk until he was four and a half years old. He was always weaker and more delicate. The slight differences in pigmentation between them may be due to the unequal degrees with which they suffered from rickets as children. The twins resemble one another so closely in a series of striking characteristics, including fingerprints, that there can be no doubt of their monozygotism.

Ferdinand is the elder by two hours. They grew up together and had whooping cough, measles, and scarlet fever at one and the same time. Georg had pneumonia at the age of five; Ferdinand suffered from laryngitis during this period. In 1916, while living several hundred kilometers apart, both suddenly and without any premonitory symptoms, developed acute appendicitis and had to be operated on at almost the same moment. Both served their first heavy sentences apart from one another at practically the same time. They were not naughty children and got on well together. Probably on account of his long illness in babyhood, Ferdinand

was the more selfish of the two. Georg gladly gave way to him. They were for the most part together at school and did their lessons about equally well. Ferdinand was a little better at arithmetic, Georg at history. Both were good at gymnastics; one slightly superior in drawing, the other in music. Both showed a good deal of imagination in essay writing and other directions. They are still keen readers and have similar tastes in literature. Ferdinand was something of a chatterbox while Georg took more easily to fighting, often defending his weaker twin. Puberty came to them at the same period and both masturbated for a short time. Later on, Ferdinand, who was a waiter, had rather more affairs with women than Georg.

At puberty both were attacked by wanderlust. Georg ran away from home on several occasions, had to be sent for, and could not keep a job anywhere. Ferdinand also decamped from his apprenticeship and satisfied his desire for travel by becoming a ship's boy. Both ran away for the first time from places about 200 kilometers apart, quite independently of one another, but at precisely the same time. Neither of them cared particularly for work and took to a variety of jobs. At length Ferdinand became a waiter, while Georg turned to

cabinet-making, although he never properly finished his apprenticeship.

During the war both twins volunteered for active service. Ferdinand entered the navy and Georg first of all a training school for non-commissioned officers. He was dismissed because of mutinous behavior and was given 21 days' close arrest. After that and until the end of the war both were in the field as infantrymen. Ferdinand was unhurt. Georg was wounded and also gassed on one occasion. As a result of being buried by a shell-explosion, he suffered for a time from a kind of shell-shock. The brothers took no active part in the revolution, although Ferdinand was enrolled in the Red army against his will. After the war they were still disinclined to work. Ferdinand tried the harder to find a job, but luck was against him. Neither had come into conflict with the law up to this time, but in 1919 we find Georg involved in two prosecutions. He had secured a job as messenger and was given a commission which he executed more or less properly. Then it occurred to him to return to his old division—he had not yet been discharged, but had gone off without leave—and to do so took a small sum of money which had been entrusted to him by his master. He received a short sentence for this. Soon afterwards he stole a

bicycle. For that the Divisional Court locked him up for two months. A year later he was given a detention for wandering without visible means of support and for begging. He was put in a cell with two other prisoners, one of whom, an old hand, incited him to try to escape. Together they attempted to break through the wall of their cell by night, but in vain. Next morning they attacked the warder, threw a rug over him, and struggled to secure his keys. His wife arrived on the scene and threatened them with a revolver, whereupon the convicts immediately gave in. Georg was punished by penal servitude for one year and behaved blamelessly. A year later he received another short sentence for embezzlement. Since then he has had a clean record and at present he is working.

Ferdinand was not sentenced until later. Just before Georg was punished for mutiny Ferdinand and a lodger of his mother's broke into an office and took two typewriters which he tried to pawn in several towns. In one of these places he caught a venereal disease from a woman. His theft was not discovered until a year later when one of his mistresses, with whom he had quarreled, gave him away. Ferdinand confessed at once, and taking into account his poverty as a mitigating circumstance, he received a sentence of only one year. Because

of perfect conduct, he served but six months. He has been free since that time. In 1926, however, he was seriously suspected of theft and dismissed from one position, according to a tale he himself told a fellow-patient in hospital, because he was caught making a gesture which in this country stands for stealing.

Both brothers suffered much during imprisonment; they contemplated suicide and were haunted by dreadful fantasies, but as stated, they were not difficult prisoners.

Since Ferdinand caught his venereal disease he has become fearful, hypochondriacal, melancholy, and lives only for his health. He is constantly being treated both in and out of hospital for his recurring gonorrhea. He is depressed by tales of the dreadful sequels to venereal disease. There are no signs of organic lesions of the nervous system, but he has not been examined by lumbar puncture.

Georg worries less. His gonorrhea was quickly cured, but he likes to have an occasional rest-cure in hospital.

The Meister brothers show an innate lack of self-control. They are weak-willed and work-shy. Both are afflicted with wanderlust to which they offer no resistance. Both are irresponsible, but decent fellows at heart. They are not positive criminals. Opportunity

finds them incapable of resistance, but they commit serious offenses only in company with others and during bad times. If their circumstances improve, they will probably stay out of trouble. One of them appears to be a weaker edition of the other. Their reactions to definite situations, as, for example, to prison life, are identical. Ferdinand's reaction to his venereal disease reveals his weaker character.

They assign their criminality to bad luck or rather to destiny. When asked a merely general question (whether they had ever had anything to do with the police) each quite candidly told his experiences. Both get more deeply moved when describing their depression in prison. Both, by the way, are exceedingly grateful to their respective prison doctors who treated them sympathetically.

Perhaps the twins are continually finding their way into hospitals because of the effect of their prison experiences. They belong to the dregs which are a goodly proportion in every large hospital—people who are suffering from trivial ailments—often the results of an earlier attack of gonorrhea—and who use them as an excuse to avoid work. Among these there are many old convicts. In this way the hospital often acts

as an outlet for many of the weaker criminal impulses. It would be worth while to go into this question further.

BAD COMPANY

JOSEF and Wilhelm Rieder are now in their 38th year. Until they were ten years old it was quite impossible to tell them apart; even to-day it is not easy. They are nice chaps, but it is difficult to get any information from them. Their mother also evades even the most diplomatic questions. Their local Supervisory Institute, which practically never fails, could get nothing from her. The mother is a quiet, friendly, generally cheerful and sociable woman, but she is nevertheless suspicious and does not always get on well with her husband and her neighbors. After the early death of the twins' father, she married a second time. She had already had a child by her second husband before her first marriage. The father was not the success he had expected to be. He was a serious, curt man, who lost much money on "inventions." He had a son by an earlier marriage who was delinquent and kept in an Institution. Thus he had "criminal" children by two wives. Nothing more, nothing derogatory at any rate, is known of

the parents' families, nor of the other brothers and sisters. The twins were well treated by their stepfather.

Their economic circumstances were fair. Both children were healthy, although Wilhelm was always a bit weaker than Josef. Both were lively, rather quarrelsome, and certainly not stupid. They received a strict, Christian education, and were often beaten, according to Wilhelm, because they were guttersnipes. They had the same good marks at school. Both smoked a good deal and liked to drink. They were not merely guttersnipes, but quite early inclined to be "bad boys"—the terror of their teachers—and their behavior at school was "simply indescribable." When punished they grinned. When beaten they fought back. Their conduct made them "very dangerous, not only to other scholars, but to the whole district."

Before he was thirteen, in October, 1903, Wilhelm was persuaded by another boy at mass to steal some small articles, and was severely reprimanded for doing so. Shortly after, Josef stole a book on how to write love-letters and several steel pens from a counter. A little later he attempted further thefts, for which he received two days' imprisonment in December, 1903—the very same day Wilhelm was again sentenced to one day's imprisonment for theft. He and another boy, D.,

had stolen two rings from a counter-box in a shop, one of which he gave to a girl. He also got one day's detention for stealing cigarettes from a counter. The twins committed their next crime together and with their friend D. They broke open a cash-box in a shop and took ten marks from it. They were given the heavy sentence of three weeks' imprisonment, partly owing to the fact, no doubt, that D. committed suicide. On the discovery of their crime D. had told the twins that he was going to kill himself. Josef had answered, "You're right; we will hang ourselves after you." Josef and another boy watched D. hang himself, but of course did not follow suit. Wilhelm went to break the news to D.'s mother and it was decided to have the twins sent to a reformatory, since D.'s mother and others alleged that the Rieders had corrupted their boys. Mrs. Rieder, their guardian, and the priest were all in favor of this plan. The report on them contains allusions to property damage done by them and to anti-social behavior; it is also said that before they were old enough to be sentenced the suggestion that they be sent to an institution had been made in their school reports. In addition to the crimes already mentioned, a whole series of additional delinquencies by both of them were listed—bathing in forbidden places, trespassing, and several thefts

from fields. They were described as "very bright lads" who knew perfectly well that they were doing wrong, but who were wild, insolent, undisciplined, and fairly started on the road to ruin.

However, there was no room for them in any available reformatory. At first they stayed at home and began suddenly to behave themselves properly—apparently their friend's suicide had made a deep impression on them. Wilhelm was apprenticed to a painter; Josef got work in the village and later in a factory. During this period both were hard-working, obedient, and generally well-behaved; they went regularly to their school continuation classes, where their conduct was faultless. Wilhelm was obviously repentant and their teacher considered him the better of the two. He urged that the boys be separated. This was quite unnecessary for both wanted to get out into the world. In October, 1904, Josef disappeared for three weeks and was finally taken into custody by a policeman. In 1906 Wilhelm ran away from his master and was detained for vagrancy one hundred kilometers away. There were, however, no further prosecutions. After June, 1906, Josef was no longer reported as working, nor was Wilhelm from November, 1907. The latter was wandering about, while the former spent a year and a half as a coachman in another part

of Germany. Their conduct was good, and in November, 1908, they were free of official supervision.

Wilhelm had become a painter and continued to live with his mother. He managed to keep out of prison for more than ten years. This was not the case with Josef, who spent years in distant places and had a great deal of "bad luck" before he was twenty, the details of which are not known. However, a note in the records of his last crime mentions nine previous sentences for theft, receiving stolen goods, willful damage, assault, and begging. Just before his military service, Josef turned up as a swing attendant on a fair-ground in rather lively company. One night he and another fellow bought 45 liters of beer, which was drunk by five boys, all of them quite young. The drinking went on until after midnight and the group was naturally fairly gay. Towards three o'clock in the morning the lads were taken to the police station for rowdy singing, but were discharged. All were drunk but still able to keep going. Off they went, singing and shouting, tearing down plants from window-boxes, throwing tiles at a board on a scaffolding, ringing doorbells, and finally destroying a lamp-post because they wanted to make a row. Josef was caught by a policeman committing a nuisance on the pavement. Two of his comrades tried to rescue him

and the policeman fired into the air. However, they got his saber away from him and knocked him on the head with a beer mug. Another of the boys picked up a keg to throw at the officer, but help was at hand. Three more policemen appeared and the boys met them armed with stones. The officers went for them with drawn sabers, wounded all five, tied them up and overcame further "resistance" with cudgels and handcuffs. The boys managed to break a window or two in the cells and in the patrol-wagon. Josef is not mentioned in the list of these additional delinquencies, but freely admitted that he had fought back after he had been hit. In fact he admitted everything he could remember. The evening brought him two weeks' detention for disorderly conduct, one day's detention for breaking police rules, and one year and three months' imprisonment for resisting arrest. His prison record was unfortunately destroyed, but apparently he behaved himself well. And this was the end of his official criminal career. He married a most respectable woman, by whom he has a son. He went through the whole of the war and for many years has been employed, although not at his old job.

Wilhelm, on the other hand, was at first quite steady. He worked hard, served his military term, and married early, but lost his excellent wife in her first confinement.

The child, however, lived and was healthy, and for its sake he married soon again. The second wife had already been divorced and was, as we say, a shrew, who made Wilhelm's life a burden to him. However, he was called for service in the war, so at first things were not too difficult. All went well and he got on with his superiors. In 1916, unfortunately, he was buried by a shell-blast and as a result suffered from nervous trouble and shell-shock so that he was finally discharged with a pension for tuberculosis of the lungs caught on active service.

That settled his fate. His wife led him a hard life and he consoled himself with a nice young girl, a waitress. The girl's mother thought she was foolish to give up a good position, to go about with a "bad lot" like Wilhelm and have children by him. But this was not really the case. The girl's brother was a disreputable character, she herself a good-natured, cheerful, light-hearted, and faithful person, who was very fond of Wilhelm and lied magnificently for him. Nevertheless he was now in rather dubious company. He gave up a good job and became a profiteer on a large scale. His colleagues were caught; Wilhelm was accused by his angry wife. The result was the first sentence of a new series—three months' imprisonment for unauthorized

trading in foodstuffs, etc. The second sentence, again arranged by his revengeful wife, was three months for desertion. After the divorce Wilhelm married his mistress, by whom he had had several illegitimate children. Under her influence he became a Protestant. His work went badly; trading was much easier and in 1920 he received another sentence for further unauthorized dealing. The records on this occasion give a good picture of the set Wilhelm had gotten himself into—profiteers, prostitutes, and thieves. Of them all Wilhelm was the best-natured and most harmless, and his new wife resembled him in this. The following year he and some companions began stealing flour, but were not successful. They took instead some driving belts and were caught trying to get rid of the spoils in a low den. This theft, which was apparently committed under heavy stress, led to four months' imprisonment. In 1923, Wilhelm, having gone shopping prior to visiting his children (who were in a home), took a bicycle away with him. It was a lady's bicycle and he was caught trying to exchange it. His wife lied most marvelously and Wilhelm followed her lead. But he was nevertheless sentenced to six weeks' imprisonment. At the end of this same year he sold a bicycle, which had been stolen from his home-town, in another place. When he noticed the

buyer's suspicions he tried to escape, but in vain, and on this third and similar occasion his wordy excuses got him off with six months for embezzlement. Two years later he again stole a bicycle he found while "looking for work" a long way from home. Although great care was taken and the bicycle passed on to three people, including his brother-in-law, and pawned by a fourth, with a fifth as witness, the story came out and Wilhelm went to prison for six months more. Since then he has not been arrested and appears to have found work.

Wilhelm's prison conduct was always good, except that he was once caught talking during "silent" hours. He was willing and industrious and did not make an unfavorable impression on those who had to deal with him, although he was never trusted. It was noticed that he was good-tempered, obviously suggestible and weak. In later years he had drunk heavily and could probably be described as a "reckless drinker." In addition, his consumption kept breaking out.

It is quite obvious that Wilhelm was no more able to get out of the set his last wife had brought him into than Josef was able to free himself from the bad boys with whom he associated in his twenties. The wife herself was undoubtedly well-intentioned, but in need of

money. During the summer Wilhelm worked hard, but in winter there is little for painters to do, and they were always in need. His prison terms were for the most part in winter. His wife was continually getting his sentences postponed and tried in every way to help him and obtain favors for him, but was never quarrelsome about it. When her husband was in prison she supported herself by taking in prostitutes as lodgers—sometimes even when he was at home. In 1926 two prostitutes lived for a year in Wilhelm's house, paying ten marks a week for their board and lodging. As early as 1923 circumstances were bad; they had prostitutes as boarders, who brought men back with them, as well as a young woman who was being kept by her lover. Once a policeman found two couples in one of their rooms, one young woman undressed, the other on the divan with her lover, and Wilhelm as well, drunk after a heavy night. He was several times charged with procuring. In addition Wilhelm and his second wife had trouble for many years as a result of a relation which got them several sentences for concubinage until they could at last be married. Moreover, the wife Frieda, who was inclined to be excitable, was once in conflict with the law for breaking the peace.

Josef only appears on this part of the scene once more (on the occasion of a deal in foodstuffs) in a

vague way—so closely resembling his brother that their identities were confused. Unfortunately, the court did not follow up the matter.

The Rieder brothers are obviously similar—good-natured, weak, suggestible creatures, with a liking for drink and open to external influences. They are not active evil-doers, quite the contrary. Provided that they have some outward support, there is no danger of their breaking the law, although nothing can change their natures. As soon as they get into bad company they fall without resistance under the worst influences. Their chief innate characteristic is their suggestibility, and this also is at the bottom of their criminality. They are typical exogenous "criminals," owing to inborn traits which they cannot overcome. In better economic circumstances they would probably lead a far straighter life than they do. One might fix the blame on hereditary traits, or circumstances. Both would be right and wrong. Heredity is nothing without environment.

Environment plays an important part here with respect to alcohol—this poison breaks down what little ability they have to resist temptation. At the same time it would be incorrect to assert that without alcohol they would not have gone wrong.

Their extreme suggestibility also determines their

attitude toward crime. Josef seems to have become stronger under the influence of his energetic wife. Wilhelm, however, had the misfortune to lose his first good wife and to have his home made unbearable by the second one's bad temper. This drove him to drink and into the arms of another woman, who, although she herself was pleasant and good-natured, associated with lax companions and only saw harm in her husband's criminality in so far as he occasionally allowed himself to be caught.

GENIUS IN SWINDLING

THE criminal records of Wolfgang and Herbert Lauterbach are interesting.

WOLFGANG	HERBERT
Crime: Swindling on 3 occasions and continually producing false information of a serious nature, also further attempted or successful swindles. First sentence in 1924, 5 years' imprisonment; second sentence in 1925, 4 years' and 3 months' imprisonment.	Crime: 7 cases of swindling. Sentences: 1926, first sentence of 4 years' and 6 months' imprisonment with 5 years' loss of civil rights, on the first count; on the second count, 3 years' and 6 months' imprisonment with 5 years' loss of civil rights.

The early history of these twins is rather obscure, as their stories are not only inconsistent, but full of contradictions as well. The investigating judges had the greatest difficulty in getting at the facts, and were only successful with regard to small details. Most of their story remains vague and, let us emphasize the point at the start, both brothers were always lucky enough to get the courts to accept the version of things most favorable to themselves, and what is more, quite independently. One of them was tried in a large Prussian city, the other in Bavaria. In prison, as well, they received similar treatment to an astonishing degree; although one was in Prussia and the other in Bavaria, both managed to obtain considerable concessions, including occasional leaves of absence from prison. In what follows I shall simply state what is definitely known and endeavor to clear up what is obscure.

Their grandfather was an innkeeper. Their father died some years ago of cancer of the kidneys; according to Herbert he drank, but was an energetic, respected, and serious man. Various accounts state that he was a business man, a factory owner, or the director of a large concern. In reality he was probably a man with a small business. According to reliable information secured elsewhere, the mother was a woman of little

education and had been a housekeeper. She is also alleged to have been fond of drink and was apparently excitable, temperamental, moody, pleasure-loving, addicted to drugs of all kinds, and hysterical. (This is Herbert's account.) Occasionally she accompanied her sons on their "business journeys," lived extravagantly with them and made herself useful as well. One informant states that her conversation was as imaginative as that of her sons. But it is unlikely that she played an active part in their transactions. The only other brother, a younger one, appears to be weak-willed and unintelligent, but not a swindler. He is divorced and according to the records, has tried one profession after another.

The twins are said to have been seven months' babies. They were sickly and were kept in an incubator as infants. They developed very slowly until their thirteenth year, then normally. Their resemblance as children was striking and their mother could only tell them apart by their freckles. At school, too, they were often confused and used to be caned for one another's misdeeds. Later Herbert became taller and slimmer; Wolfgang the stronger and shorter. To-day their resemblance is extraordinary and their records emphasize the fact that they were mistaken for one another. Their voices are identical. Wolfgang has somewhat larger hands and

feet. In structure their faces are alike, although Wolfgang's expression is colder and more determined than Herbert's. In external characteristics—eye-color, features, growth and parting of hair, etc.—the resemblance is perfect. Their finger-prints are, roughly speaking, mirror-images of one another.

The twins had all the usual children's ailments. Herbert had a particularly severe case of diphtheria and traces his weakness to it—also the paralysis of the vocal cords from which he suffered between the ages of five and seven, and the fainting fits which he had between the ages of six and thirteen. The twins were the best gymnasts in their school, but otherwise not much good there.

Wolfgang declares that he attended both a preparatory and an advanced school in order to pass the examination qualifying him for a single year's military service, but the latter school obviously never existed. Herbert claims to have reached the third year in high school, but the results of investigation show his education ended in a much lower class. He could produce no evidence to support his statement that he passed his one year's service examination during the war. Wolfgang served as a volunteer, but not as a "one-year man," because, he said, he had not the means to do so. Herbert

was not called up because he was physically unfit. Wolfgang chose a technical profession and spent one or two terms at a private technical institute. He says he passed various examinations, but this cannot be proved. Herbert became a commercial clerk, apparently with good prospects.

Wolfgang never served at the front. He was working before and during the war on an invention of his own, the future value of which got him a "safe" job in the employment of a municipality. He was not promoted to officer's rank. However, his wife's photograph appeared in an illustrated journal as that of the wife of Captain von Lauterbach. Apparently Wolfgang was ill for a long time during the war, but there are no pension papers. He does not boast of military exploits, but he finally invested himself with a title—that of Baron. According to his story, his father told him that the family was originally a noble one, but had dropped the title on financial grounds. Herbert did not call himself "von," but gave further details in the matter. He said their father dropped his title in 1889 after a controversy with the Ministry. As the College of Heralds had ruled that a dropped title for which there was good evidence could be resuscitated, Wolfgang simply called himself von Lauterbach. The evidence has certainly vanished except

for a Cross of St. John and a signet ring. The crest on the ring differs from that of the later "Baron," and the genealogy of the family to which he claims to belong simply never existed at all. In spite of this, the court refused to decide whether Wolfgang was entitled to his rank or not, and continued to call him Herr von Lauterbach.

As I have previously said, Herbert was not called to service. When war was declared he was bookkeeper in a large firm. According to his own account, he made some extremely valuable military inventions, for which he later received an important decoration. The firm states that he was actually a clerk and cashier. "As cashier he committed gross defalcations in his wages' book, and was so careless with the large sums entrusted to him for salaries that he caused us considerable losses." Accordingly, he left this job and volunteered in the Flying Corps. He claims to have received numerous decorations and to have made seven hundred flights into enemy territory, to have crashed, and to have been shot down. In reality he was only at the front for a few days and reported sick almost immediately. At a safe distance back of the lines he improvised a printed testimonial from an officer, whom he continued afterwards to cite as a reference, but who at this time had long been dead.

A report from other quarters states that he was authorized to act as buyer for the Officers' Mess. Herbert frequented it, much to the astonishment of the officers and gentlemen who belonged there. They also wondered why he was never sent to the front. There are no records of his alleged decorations, nor of pensions, in spite of the skull wounds he speaks of, as well as epileptic attacks, etc. Later on he had an officers' sword hung up in his flat, although he never actually got beyond non-commissioned rank. After the war he claimed to have saved the lives of two children simultaneously, and to have received the life-saving medal for this heroic deed. The present police authorities and the Ministry of the Interior know nothing whatever about this event.

Apparently Wolfgang was having affairs with women during his military service. He married in 1913 and had three children. Strangers state that his wife was simple, intelligent, and reserved. But Wolgang was obviously not made for monogamy. Later on he always had remarkably pretty private secretaries. Once he bought a fur coat for a woman he had met in a night club, but he paid for it with a bad check. Although Herbert denies it, he is alleged by an informant to have had affair with the governess of Wolfgang's children,

who afterwards became Herbert's wife. He claims to have been in love at the age of twenty with a girl in a distant town, but this did not prevent him from getting gonorrhea twice before the war. He was divorced from his first wife, whom he had married in 1914. Once Herbert declared that it was his fault, but on another occasion that it was his wife's. He tells a touching story of his marriage in which he appears as the generous, forgiving, trusting, devoted husband. Unfortunately each new version differs from the preceding one. A child was born by this marriage and lives with the mother. His second marriage is obviously successful. Herbert's wife also is intelligent, reserved, and simple.

Wolfgang's career is astounding. For some time he had been busy with an invention. Although the preliminary ideas were admittedly those of a former employer, he claimed that if he could carry them out they would have important results touching even the financial situation of the whole nation. According to expert opinion, Wolfgang was able to make certain easily arranged and impressive demonstrations of his invention which, with the help of various tricks, could easily take in the layman. He had already done this during the war and owed his back-of-the-lines job to it. He managed to get

an extraordinary amount of capital from a constant stream of ignorant people, deceived by the alleged invention, or rather his demonstration of it, together with his splendid appearance, his title, and his so-called national importance, to say nothing of his marvelous gift of oratory. Bit by bit he ensnared one financier after another, and managed to collect a really impressive capital. Finally he floated a company, the only assets of which were the invention and the taking of various options on its possible developments, but which distributed numerous shares. The latter reached very high sums in foreign currencies and Wolfgang sold them in great quantities. Among the large circle he drew into his net were respected members of pre-war society, as well as factory owners and even technical experts and engineers. At length financial difficulties arose, in spite of the enormous sums which had flowed in. Thereupon another company was started under a still more impressive title, and as before, Wolfgang was managing director. Although he had given no new demonstrations for years, fresh millions poured into the business. There was one quite casual demonstration one evening just before the new company was floated. Next morning when the technical adviser attempted to control the apparatus—Wolfgang had prevented this on the pre-

vious evening—the machine resolutely refused to do its work in spite of all sorts of precautions. It was claimed that "an enemy or competitor" must have had a hand in this.

Nevertheless, the numbers of the faithful did not diminish. A year later Wolfgang put a series of forged dollar checks into circulation and then his fate overtook him. In spite of his constant mysterious tales about Americans who had somehow disappeared and other people who had never existed at all, the legal expert declared positively that Wolfgang was the forger and the court was convinced that he was guilty. It was certain that he had been dealing with members of a forgery gang. It was also certain that he had an accomplice, condemned at the same time, who had signed one of the checks and who had acted as an ostensible "expert" to a number of strange transactions before a notary.

Although these forgeries may seem to have been clumsy and commonplace, Wolfgang's talent for getting all sorts of intelligent and even skeptical people to believe in him for so many years was, at the very least, amazing. Even to-day, in spite of his sentences, and of several grotesque sidelights which came out during the prosecution and were given wide publicity, there are

still not a few people who have faith in him. Many of them are convinced of his genius; they themselves saw the demonstration, and their view is that he only refused to go on working at his apparatus because others were trying to deprive him of his profits. People who had lost hundreds and thousands of marks stuck to him at his trial.

At any rate, Wolfgang had a good time of it. He had practically given up work on the apparatus. He always managed to postpone expert investigation. On one occasion he was brazen enough to put off an expert who had traveled a long way to see him by saying he was about to go for a ride. Another time, when the apparatus was going to be examined officially, he pointed out that certain preliminary conditions had not been fulfilled so the examination could not take place. In brief, Wolfgang managed to put it off altogether. The technical adviser his company had provided for him never once saw the machine work to any purpose, but had been so successfully taken in by Wolfgang that he swore by it and gave the apparatus the highest praise at a meeting of shareholders. Newspapers published articles and photographs of the inventor loudly proclaiming the fame and importance of the invention and that the patriotism of one who

was prepared to go to any lengths to prevent his creation from falling into the clutches of foreigners.

Wolfgang did well for himself. In 1919 his backers spent a million marks on a little palace in a large town which had belonged to a Royal Prince and which they presented to him. Later he had a ten-room apartment full of valuable furniture and carpets run by a staff of servants. One of his brothers was appointed as his secretary, he had several girl secretaries, and at one time a student was appointed as technical assistant, although he never had anything to do. Wolfgang kept horses and had a car provided by arrangement with an automobile firm. He once bought a very expensive automobile, without, indeed, paying for it. He fitted himself up with valuable furs and clothes, and made handsome presents to his wife and mother, paying for them with falsified or uncovered checks. He traveled a great deal and always stayed at the best hotels, where he took a sitting-room as well as bedrooms. He was always accompanied by a pretty secretary, sometimes also his wife, mother, children, and his brother. His office was magnificent. Occasionally he called in brokers, but more money was always available.

The second sentence states that "the frauds committed by the accused were on such a grand scale that he

must be reckoned among the most notorious swindlers." There is no doubt that the man must have had an unusually impressive personality. In spite of having risen from nothing, he moved almost exclusively in the best circles. His knowledge was threadbare and his scientific talk nothing more than empty, half-digested phrases. He was also considerably helped by his colleagues, some of whom repeated his statements in all good faith, and occasionally—as in the case of an irresponsible and bogus former officer—exaggerated them and thus, according to the court, actively supported the whole swindle. But still Wolfgang was the active agent in it all. He was really inimitable on occasion. Once, for example, he took a man from whom he had just obtained a large sum, to visit an important bank manager, and in his presence declared that next day the bank would receive half a million in foreign currency on his behalf. The victim took his word for it and so did the bank manager, at least at the moment. An experienced business expert gave him a great deal of money on his statement that he was short of cash because he had just authorized a credit of one million marks on his brother's behalf. The expert gave him large sums, not once but several times, together with his last batch of valuable shares. A large company gave Wolfgang a check with

instructions not to cash it until the following day. The managing director afterwards regretted the step and tried to have payment on the check stopped, only to find that it had already been cashed. Nevertheless, the same company soon after provided him with further large sums. So it went on. Every one believed in him, and even the court, although definitely skeptical, trusted him far too much.

Herbert, after his discharge from the army, was first of all an agent and then began a very dubious export business. At the time of his brother's fall he also passed off an uncovered check, but was not prosecuted. His speciality was dealing in money and securities which had been entrusted to him by honest people for investment overseas. I know two cases of this; one statement was made under oath and the other seems to me absolutely genuine. Both would no doubt have led to sentence if action had been taken.

While Wolfgang was detained on remand and thousands still had faith in his invention, Herbert went to work on a similar apparatus, ostensibly to prove the genuineness of his brother's creation, in which he had previously assisted. But now he worked according to his own plans, at first using his "private" means, but soon financed by others. One of his victims, whom he robbed

of his entire fortune, in excess of twenty-five thousand dollars, believes to this day in Herbert and in his invention. The apparatus is said to have worked temporarily, and then again not to have worked. At any rate, it produced nothing; the money had vanished, partly spent on the costs of Wolfgang's trial. Did Herbert believe in Wolfgang's lucky star? He talked of his genius. Nobody can say for certain; not even Herbert himself.

Things went from bad to worse; there was no more money and creditors pressed. And then Herbert made a discovery of his own, a discovery which was in the air. A great scientist stole it from him, but as a matter of fact, his "invention" also turned into nothing. For the time being, however, the new device worked marvels by the simplest means and its value could be immediately demonstrated. Any one could work the apparatus. When Herbert was there, or if he was working on it a short time before a demonstration, it always or nearly always gave results. If Herbert had not been working on it for some time, nothing happened or else definite results were obtained only very occasionally. Therefore his disappointed audience decided it could not be so simple as all that; there must be some sort of trick about it.

A minor employee gave all he had; other people of limited means did the same. Then Herbert found a

colleague, a clever and alert business man, who was much more intelligent than himself but nevertheless believed in him. The State Attorney doubted the belief, but the court did not, and I myself have no doubt of the man's honest faith in his partner. Herbert now obtained still larger sums, including vast capital from one of Germany's best known men of affairs. Both partners had debts to pay and the money was soon spent. It was necessary to find more. It is most certainly incredible that a man with an excellent reputation in German technical and economic circles should still have had faith in Herbert after what he had seen and investigated for himself. A new company was formed which was to pay out large sums in part-payment, and actually did produce tens of thousands of marks.

Herbert knew as well as Wolfgang how to avoid investigation by independent experts. Either he was unable to be present at the critical moment or else experiments had to be made in his presence immediately before he was about to rush off on a pressing journey. One modest but obstinate investigator, who was well qualified to judge the invention, thought he smelt a rat. He experimented for himself, but without success, and one day he reappeared at Herbert's home. On this occasion he proved that the experiments were always nega-

tive if Herbert was closely observed, and always positive if he was apparently not being watched. Finally, he was shown up, and as there was good evidence of swindling, he was arrested. His little game had lasted for ten months.

Herbert also had not done badly for himself during this time. He lived in a nice little house, had a manservant in livery, a laboratory assistant, a man secretary, and probably other employees. He also traveled about. His former office in his "export business" had looked like a minister's reception room. In the new office he displayed the same magnificence as his brother Wolfgang. He stopped at first-class hotels, where he always occupied several rooms or a "suite." He spent a number of weeks with his family in the most expensive hotel at an expensive watering-place. The poor man had heart disease and had to have rest or he could not have worked on his invention and its development. He was so ill that he had to have temporary injections of strophanthin. When in difficulties he had "epileptic" attacks, during which he fell down in the street. If he attempted to repress these attacks, his speech centers and his mind were upset, which also prevented him from working. He, too, allowed himself to be fussed over as a great man, though less obviously. He, too, was called Herr

von Lauterbach or Baron Lauterbach, although he did not register this name at hotels. He gave himself out as an officer of the Reserve who had received the Household Order. He dressed well and on several successive occasions, when visiting a creditor, wore a handsome new suit each time. Although he could not pay his rent, he asked his landlord for permission to build a garage, as he intended to buy a Mercedes car.

On the whole, he was less ambitious than Wolfgang. He tried to get rid of people of whom he was tired, as for example, his loyal helper with whom he did not want to share the profits and about whom he made nasty remarks. He played one backer off against another, and whenever there was a risk of exposure, telegrams arrived announcing great successes or new offers. He was the more theatrical of the two. The ribbons on his breast stood for seven decorations and he never forgot the story of the great rescue. He was much more of an idealist than Wolfgang, and a more decent chap. Wolfgang always drank a good deal; of course there was champagne at Herbert's too, but never in excess.

Both Wolfgang and Herbert always had other business affairs on hand in addition to those described above. Wolfgang had a mine awaiting development and Herbert a marble works—far away in a place no one had

ever heard of. Large sums could be spent in the form of mortgages on land of little value and already surcharged. All this was done in order to get Wolfgang out of the trouble he was in, to pay his debts, and to give him some sort of future on discharge from prison, and not for personal motives. If any doubts as to the truth of this were raised, Herbert became impudent and quarrelsome and emphasized his respectability with a comical selm-confidence.

After arrest and before his trial, Wolfgang clung to his assertion that he had made a great discovery. He did everything in his power to convince the court of this. While detained for examination, he kept on working at his apparatus and assuring every one that he would be able to produce definite results. He always found new excuses. Finally he arranged a serious illness for himself. His wife smuggled large quantities of drugs into prison for him, which accelerated his pulse. He also fixed temperatures and symptomatic pains so that at length the prison doctor, who had at first been extremely critical, became completely bewildered. A medical expert was consulted, and it was only when a specialist was called into consultation that his tricks were discovered, although, of course, strenuously denied by Wolfgang. He retaliated by accusing the surgeon of

prejudice and also of an earlier professional mistake for which he, Wolfgang, had almost paid with his life. Unfortunately, the surgeon was unable to remember these early details. At any rate, the incident involved a claim for accident insurance.

Wolfgang never admitted his check forgeries. He tried to put all the blame on his accomplices, adhered to his fantastic stories, and declared that if only he were set free, he could expose his enemies and prove his innocence. Once, he returned from leave drunk, but otherwise his behavior was blameless.

At first, in spite of all proof to the contrary, Herbert asserted that his invention was genuine. He allowed his experiments to be repeated in a scientific institute. The evidence of several scientists, laboratory assistants, and the foremost detectives of a leading police department, together with painful dress regulations and finally an X-ray examination were necessary to force a confession from him. This was made with enormous moral pathos, which did not accord well with the fact that he tried to put the blame on his helpers in the most underhanded way. Whenever he could think of some ridiculous and inadequate accusation against his assistants, he requested permission to make a statement to the examining magistrate. Otherwise, he behaved well and had no objections

to the findings of the court. However, the examining magistrate had to reprimand him before he could be induced to part with a few articles of value in order to compensate the poorest and most badly hit of his victims.

Herbert managed to get himself treated by a psychiatrist. During detention he was several times found "unconscious" on the floor by his bed. At the Institute where he was sent for observation he was in an hysterical condition.

Wolfgang appealed against his sentence and got it slightly reduced. In spite of very definite expert evidence, the Court of Appeal decided slightly more favorably for his invention than the judge at his trial had done, and also found no evidence of deliberate swindling on two of the lesser counts. The judgment makes enjoyable reading.

Herbert also got his sentence reduced, chiefly because one charge of swindling was disallowed, and one or two other instances were considered in a more favorable light. It is typical of Herbert that he did not try to go back on his confession, but nevertheless allowed it to be understood that his invention was genuine, although not commercially exploitable. As he had been in

need of money, he had endeavored to anticipate the fortune that was coming to him and had finally exaggerated the merits of his discovery. It is curious to realize that even to-day people not devoid of critical sense do not altogether distrust him.

Wolfgang served his term without serious trouble. He behaved well, had a pleasant job, and constantly put in petitions for the cancellation of his sentence. At first he invariably emphasized his innocence. It was only after a conference of the officials concerned had decided that a remission of his sentence would nullify the purposes of justice, that Wolfgang suddenly admitted there might have been something in the allegation regarding the check swindles. The referee appointed by the court to deal with his applications dismissed a whole sequence of them as frivolous. Wolfgang was at last discharged, although only temporarily. All sorts of wires had been pulled on his behalf, and it is not at all clear how the referee was prevailed upon to change his mind.

Wolfgang secured repeated short leaves and on one occasion a fairly long one. During some of these his invention again came into play, and new and rather obscure business affairs were begun. He always advanced his alleged bad health as a plea for leave. His

petitions for this also contained information that can be proved false. It is some time since Wolfgang was finally discharged. My most recent information states that he started at once more to work on his apparatus, had a nervous breakdown due to overwork, and went abroad in order to recover from it. He is supposed to have become a morphinomaniac.

While serving his sentence Herbert's behavior was perfect and the "sincere, pleasant, modest fellow" won all hearts—rather a joke for those who knew the whole story. Herbert did not get such easy work as Wolfgang and complained to me that he, "who had a thousand qualities with which not a hundred prisoners were gifted," had too few opportunities to display them. Herbert still had his friends, especially the business man whom he had relieved of more than twenty-five thousand dollars, and who, nevertheless, remained trusting. Wolfgang's apparatus was assembled in the prison, and suddenly gave results which, however, could not be verified by the expert who was immediately summoned. Herbert was given leave and at once got feverishly to work in a scientific institute, but without success. There is a great deal of mystery connected with this machine. However, large sums again flowed in to back it. Wolfgang's backer again came forward. When he was ob-

viously on the point of being arrested for further swindling, he attempted a ridiculous suicide. Herbert boasted of new inventions. At the same time he had a new series of "attacks" and became so proficient at them that after one crisis, which no one had witnessed, examination actually revealed the Babinski reflex.

According to present information, Herbert is still in prison.

Both brothers wrote a great deal during imprisonment. They produced petition after petition. Wolfgang was always more impudent than Herbert, told more obvious lies, and exaggerated to a greater extent without worrying as to whether his statements were supported by evidence or not. Herbert was less transparent. He had a certain moral pathos and attempted to create an impression by a lofty manner of speech. He seems to have remained unconscious that his horrible cold egotism always showed through its beautiful wrappings.

According to himself, Herbert was more of an "idealist" than Wolfgang. The latter was more unscrupulous, enterprising, and pleasure-loving. He was a "strong man," genial, and had the more fanciful imagination. Herbert claims to be more serious, although he admits "the flaw in his character"; he claims to resemble their father, while Wolfgang has more in common with their

mother. Yet the brothers never developed these contrary affinities. They got on well together, even down to quite small details, although they were separated for a long time and never actually worked together. It is certain, at any rate, that they committed their swindles independently of one another. Wolfgang was more interested in practical matters, while Herbert was a keen reader, even of the classics. He himself wrote "a book" containing anecdotes of the war. There are alleged to be no differences in most of their peculiarities or in their tastes, as, for example, their preference for particular musical works.

When I met him, Herbert played the part of the social equal. He kept to the prison regulations as if he were doing so out of mere politeness. Incidentally, with a few slight alterations, he tried the same tricks on me that he had played on the prison doctor, his earlier backer, and the high school professors. He had amazing impudence and on occasion, like all born liars, seemed to believe his own stories, although the next minute he would either amend them or profess to believe the contrary, according to his convenience.

Physical examination of Herbert revealed scars on the upper lip and forehead but no evidence of a skull wound. His blood pressure was normal. Previously, the

doctor at the watering-place where he had gone for a cure (and other medical men) had diagnosed arteriosclerosis, myocarditis, serious neurasthenia, aneurysm, and so on. His Wassermann test was negative. Actually he has no serious organic lesions, but reveals a number of neurotic symptoms, such as blushing, sudden pallor, perspiration, idiomuscular swellings, palpitations, "exhaustion," etc.

It hardly seems to require further evidence to show that these twins, Wolfgang and Herbert, are identical in basic character traits. They are both ambitious and at bottom cold and heartless beings, whose vivid imaginations and astonishing dramatic powers would be hard to surpass. They are utterly incapable of truth or loyalty. Their behavior and conversation are controlled from minute to minute by the ends they have in view and according to momentary circumstances. They narrate their almost unbelievable stories with the greatest appearance of candor.

A certain dissimilarity is shown in Wolfgang's greater coarseness and coldness. He undertakes more and attempts successfully to mislead large numbers of people at a time. Herbert is less sure of himself and more nervous; he prefers to deal with one victim at a time and does not like to be confronted with several at once,

although, if necessary, he too can handle them well. Herbert calls himself the more "idealistic," but his ideals, if they exist at all, only do so in his mind and not in his will—probably they never go deeper than the tip of his tongue. At bottom Herbert is the cleverer swindler, because, even more than his brother, he is able temporarily to believe his own stories, or at any rate to withdraw himself so far from reality that it becomes less concrete to him than his own imaginings. Wolfgang, who is less scrupulous, does not give one this impression; he lacks the quality which in Herbert is always pricking his conscience and forcing him to repress it. He is conscious of the naked truth even while telling lies and is certainly the more deliberate swindler of the two.

There is no doubt that both of them are born criminals. Nevertheless, it is uncertain whether they could have developed their swindles as fully under conditions other than the special circumstances of the inflation period. Their previous history, however, possibly even before the war, reveals the beginning of their later careers. The general uncertainty, the desire for money and pleasure which followed the war, the will to believe blindly and the almost deliberate wish to be deceived, must have provided most suitable soil for their swindles.

So both of them went to work, one of them on his invention, the other on his export business. It was only due to accident that Herbert was not arrested during that period of his career—an unfortunate accident, because it sealed the fate of many of his later victims. For Herbert saw the great opportunity which prison had closed to his brilliant brother. Without possessing any previous training, he followed him in his work and made discoveries which were most unwelcome to genuine inventors in the same field. Thus environmental influences determined the form his swindles took, but not the actual tendency to commit them. It is possible that Wolfgang was the leader to a certain extent, but Herbert's career during the war showed plainly that he too was able to satisfy his ambition without serious risks. His whole manner was that of the born swindler and he had nothing to learn from his brother in this respect. He managed to get himself believed with less trouble than Wolfgang.

We do not know enough of their family history to be able to trace the development of their criminality clearly. It is probably certain that they resembled their mother in their hysterical and slightly pseudological personalities. If we can accept the fact that their father was an energetic person, we might assume that a peculiar hered-

ity caused the brothers to develop their parents' characteristics to a degree that can hardly be called normal. It is a misfortune, not only for society but for the individual himself, to be born with so little sense of reality.

Herbert is physically the weaker and less energetic. He himself attributed this to the serious case of diphtheria, followed by paralysis, he had suffered from in childhood. General experience does not exclude such a possibility. This might be responsible, in particular, for his weaker vaso-motor system, which brought about his tendency to fainting and hysterical symptoms not unlike fits, as well as his general debility. This does not constitute a serious difference between the brothers, but, like all the other differences between them, is merely superficial. It is possible that the more energetic Wolfgang forced the weaker Herbert into following his own type of behavior; but this would only reveal his weakness in another form, and would not be due to a difference in his own inner make-up.

THE AMBITIOUS OSTERTAGS

IN the next case we shall deal with, the family of the twins had been going downhill for several gener-

ations. One grandfather of August and Karl Ostertag was a professor in a large university, the other the leading citizen in his town. Their own father never went beyond a rather unsuccessful business career and his only brother, an "original character," wasted his life and died probably of a tumor of the brain. The mother's brother died of alcoholic insanity. All three sons failed in their attempts to get on in life. It was also stated that another branch of the mother's family did not do well. The twins' elder brother had a serious accident in childhood, as a result of which he suffered from fits. He finally died of them, in spite of several operations. Their father was a curious character, unnecessarily anxious and weak-willed. At the same time he was obstinate, although completely under the thumb of a housekeeper he employed after his wife's early death from cancer of the breast. The housekeeper obviously decided everything and it is alleged that she could not stand the twins.

August was the elder and always the stronger of the two. But they were so similar that no one could tell them apart. When they were undergoing their military training in the same company, their resemblance and the amusing confusions it led to were the talk of the entire regiment, and caused them to be specially pre-

sented to the Duke of their garrison town, although they were by no means the best soldiers. If one was sick, the father made the other put out his tongue, and he was quite right in his assumption that he would get sick too. They did badly at school. August could not rise higher than the bottom form, nor Karl from the one above it. They disliked school thoroughly, and once when they had played truant and were afraid of being punished, decided it would be best to disappear altogether. Inspired by Robinson Crusoe and various robber tales, they planned to go to Africa. August stole five hundred marks from his father, but they did not get far. They were caught and sent to a boarding establishment in a small town, where they attended a modern school. Both managed to get through at the same time. August was the leader in all their escapades, but Karl was always willing to take part in them. If, as children, they had a request to make, August was the petitioner. When they left school they went into different offices in the same business as students, and having finished their courses, entered the army to perform their one year's service together. In spite of poor qualifications, both were promoted to non-commissioned officers at the end of the year. After that they were employed as clerks with small salaries in different businesses. When they

were twenty-one years old, August proposed to Karl that they should take over the business in which he was employed and run it on their own. Karl agreed to this. The price at which they bought it was far too high, but in addition, they were both too ambitious. Several employees were at once engaged, expensive catalogues were issued, and long trips were planned. Both brothers married, Karl out of "fidelity" to his youthful love, although the girl had just lost the major part of her fortune. While Karl was on a journey, August put the remaining funds of Karl's wife—some two thousand marks—into the business. Also, although possibly not by his own persuasions alone, he got a five-figure sum from his father, which, with the knowledge of both brothers, was also swallowed by the business. When August's fate overtook him, Karl, feeling himself guilty as well, decamped fearing that their father might prosecute. He wrote his father heartrending letters, begging him not to deliver him up to the State Attorney. He threatened to commit suicide if this happened. His father refrained from prosecution, but did not forget the affair. Later on August still felt uneasy about the matter and thereafter avoided his father and his home.

While Karl was on a business trip, August, who was in financial difficulties, forged a Bill of Exchange for a

large sum. After a few days, however, he gave himself up, since his affairs failed to straighten themselves out, and he feared early discovery. He was sentenced to four months' imprisonment for this. At the same time bankruptcy proceedings were begun against the brothers and they lost everything. Karl received the news of his twin's failure by telephone in a distant town and dared not break it to his young wife. He took her to the theater, but suddenly disappeared in the middle of the performance. His wife had to make an extensive journey to bring him back, after the danger of his father's taking action had been removed. August appears to have taken most of the blame on his shoulders in order to protect Karl; the ambitious business had not lasted two years and had swallowed large sums of money.

After this, Karl had a hard time making a living in small posts. His wife supported him faithfully, and although she was herself a rather difficult person, tried to put some stamina into the weakling. It was characteristic of Karl that he got out of a military course for which he was under orders by having a "fit" which was taken to be epileptical. He had fainted before, on the occasion of a quarrel at his wedding party. He himself told me with a smile that this military duty was most inopportune; he was in trouble and his wife was

at home, alone and ill. Later on, such attacks were very useful in getting him out of awkward places. In addition to these "fits," he occasionally resorted to alcohol, and once, at least, to drugs. He always had mental troubles of one sort or another.

August also kept to petty jobs, although later on his situation improved. After his misfortune, his wife had divorced him, so he was free and tried his luck abroad for a time. When he was caught stealing, together with a business colleague, he was again sentenced to fourteen months' imprisonment which the court of appeal increased to eighteen months. He served this term, and during imprisonment his conduct was good. On his release he went to his brother, who at that time was also out of work. Karl nevertheless took him in and supported him as well as he could. Various common enterprises then followed, but led either to very small results or to none at all. Then Karl was suddenly given an opportunity to buy a good business under favorable conditions. The working capital was certainly very small, consisting as it did of a little loan from the family. August became his brother's employee, since, on account of his sentences, he could not take a responsible post himself. In reality, however, he acted as an owner, signed on Karl's behalf, and was the real soul of the

business, as he had a much better working knowledge of it than his brother. Karl's wife did not approve of this close connection between them; Karl was only able to keep August on by telling her that August got a much lower salary than he actually did. In order to hide the truth from her, the twins kept duplicate cash books.

At first everything went very well and business was splendid. Even after the crash Karl could request his chief creditor not to foreclose since the business was really a sound one. In the beginning, both brothers were keen on their jobs, although Karl, the lazier of the two, worked less than August. But shortly affairs were in a bad state; neither a balance sheet nor yearly accounts were kept and important books were only written up for a few months or not at all. In the last months there were no records kept whatever. During the first year, however, everything went so smoothly and the profits were so satisfactory, that Karl was able to meet all his obligations and to consider himself quite safe. But at the opening of the second year he began to lose courage. He had no grip on affairs and there was no way of acquiring it because of August's hopeless bookkeeping. He wavered between optimism and despair, his wife and August alternately trying to encourage him. Both brothers allowed themselves long summer holidays on

the strength of having sold for their own profit goods they had received on commission. Their method was to have one receive the money without making all the details quite clear to the other, who then did the selling. It was an absurd procedure and each must have been aware of his own guilt, but it obviously satisfied them not to be quite certain of the other's deals and to be able to reproach him should a crisis occur. For some time August had not been receiving his salary, but simply taking what he wanted from the cash register. Naturally there was no way of telling how much he took.

A crash was of course bound to follow. Karl went off on a holiday, then the newly remarried August. Immediately after, Karl went off again, to be followed once more by his brother. Karl began to be frightened; he could not get a proper grasp of the situation. He called in his wife to help straighten out matters. However, one afternoon when she was out paying a call, Karl lost all hopes. He sent off money, took most of the cash on hand, sent his wife the chief part of the money, and went off vaguely, apparently intending to commit suicide. He wrote his brother a postcard saying "It's all up." He thought first of throwing himself in front of a train, and in order to screw up his courage, drank a bottle of brandy. Even then he could not do it. He had

"forgotten" his morphia, which was left in the safe together with a note of warning that it must not fall into the wrong hands. He ended up in a distant town, but was suddenly moved to return, first by his wife's advertisements for him, and then by hearing hymns and a sermon on repentance. His wife received him kindly and accompanied him to the police, who had tried in vain to arrest him on a warrant, but to whom he now gave himself up of his own accord.

August had been arrested some time previously, but had been released immediately, as he had denied all responsibility. At first nothing could be proved against him, chiefly because of the state of the books. Karl made a more or less voluntary confession, but declared he had fallen under August's influence—after August had denied all blame and accused Karl of fast living and telling lies.

It was easy to prove August's guilt, although it was fairly certain that Karl was by no means innocent, and in several instances, entirely responsible. The spirit of the brothers can readily be judged from their hand-in-glove dealings in the case of the commission goods diverted to their own purpose. Their sentences for bankruptcy, for fraud and embezzlement, a further charge of embezzlement against Karl, and two against August,

were severe. Karl received 9 months' imprisonment and August 14 months and 5 years' loss of civil rights. Curiously enough, Karl—and only Karl—made use of his psychopathic condition, because of which his sentence was less heavy. He was put under observation on account of his fits, since his army record was taken to indicate epilepsy, and his wife's information about him was not clear. August had never had fits. Karl's were partly counterfeit, but to some extent they were typical "hysterical" attacks, with symptoms such as cardiac oppression, breathlessness, and sobbing.

After serving their sentences, the brothers lived on a very modest scale. They were never really well off again. Both served in the war, but neither reached the front. They were continually under medical treatment and often in hospital for every sort of ailment. Karl once gave me a demonstration of how he made himself appear sick at his last decisive medical examination.

They have now grown to be stout, settled men, both with large bald patches surrounded by a few stray hairs. They are "pot-bellied," August rather more than Karl. From their photographs it is still difficult to tell them apart. August has a slight case of diabetes, and Karl is beginning to show symptoms of the same disease. Their speech is still so similar that no one can differentiate

between them; what is still more curious is that their very snoring is identical, characterized by the same peculiar sound. Both are large eaters, laying more stress on quantity than quality. Neither smokes and both drink moderately. They are excellent hypnotic subjects. In politics, art, and many other interests, they have the same preferences and opinions. Both like flowers and the open air, both are unmusical and generally inartistic. Each is greedy and can never resist snatching what is offered. Both are still occasionally subject to depression and moroseness, although generally not without cause. They also are excitable and bad-tempered, hypochondriacal, nervous, cowardly, and not quite truthful. They are easy-going and have no real energy. They have always got on well together, and even to-day, after all they have been through in each other's company, remain good friends. Neither was ever jealous of the other.

And yet there are important differences between them. As in childhood, August is still more lively, more energetic and active, although this is, of course, only relative. He is quick of speech, agreeable, smooth, flattering, gay, and optimistic. Karl, on the other hand, has to be driven; he is rather pessimistic, often cross, complaining, out of temper, hardly ever amiable, and talks, much

less than his brother. He is untidy and does not bother about his appearance, whereas August is vain—his vanity is great enough even to overcome his fear of the dentist. August likes to boast and can lie with effrontery. Karl is not scrupulous with the truth, but his deviations are obvious—he has small talent for lying. August is inclined to be light-hearted, Karl more morose; August has temperament, Karl is more phlegmatic. August shows more decision, Karl is indecisive, and above all easy-going. August is a light lover. He is now married to his third wife, the second having also divorced him, and as a young man carried on five affairs simultaneously, while Karl has remained as faithful to his wife as she has to him. She is his mental backbone and provides him with whatever will power he has. My personal impression of Karl is that he can make himself pleasant if he wants to. He is a fireside hero and his people treat him with great kindness mingled with slight contempt. He is not entirely without temperament, at least, in conversation. Nevertheless, the differences between the brothers are clear and undeniable, that is if we take their inner natures solely as our measure, rather than their composite characteristics.

In examining the bases of the Ostertag twins' misdeeds, it is not at all apparent that they are born crimi-

nals. They are not, in fact, criminals in the usual meaning of the term; they are well-meaning fellows, rather insufficiently endowed. If fate had put them in comfortable circumstances like their uncle, the "original character" who was not obliged to work, they would never have come into conflict with the law at all. But they came from a home in which they lacked nothing; they had a pretentious education; their resemblance served them well in the army, and so long as they were in a protected situation, they were more or less all right. They were, however, unable to support themselves independently in the manner to which they had been accustomed, and even though their demands were not great, they were great in proportion to their ability. They were full of optimism, with ambitious expectations, but so lazy and irresponsible that they soon ran out of money, and then, without a proper sense of their situation, muddled along until a crash was inevitable. They tried to avoid it by rash transactions, which they committed in the hope of making good the eventual loss. But of course they tried in vain and so ran up against the law. Their guilt really arose from their desire to live well, together with their laziness and thoughtlessness, and the lack of courage which prevented their facing facts. They were brought into conflict with the law

through traits in common, which lay deep in their inner natures. Although each tried to encourage the other, all attempts to stand on their own feet failed lamentably.

August is certainly the less scrupulous of the two. He committed a theft in addition to his other misdemeanors, a crime of which Karl was never accused. At the time, of course, he was in special trouble, having to provide for his bride, who was ill, and being without means or assistance from any one. His difficulties were taken into account by the court, and because of the facts, and in a large measure, due to the good-will of his judges, he escaped sentence. Karl was never in a similar position. Nevertheless, the question might be asked whether in the other two instances August forced his weaker-willed brother to do his bidding. In my opinion, this was not the case. The court, in deciding that Karl also was definitely to blame, was quite right, and August only received a heavier sentence because he had been convicted once before—one must, I think, admit accidentally. It is hard to believe, however, that Karl would have become a criminal on his own. But August as well would not have got into the situations by himself that he did in Karl's company. Neither alone would have had the courage to undertake business ac-

tivities such as those in which they engaged together. Their partnership would have been a good thing had they been complementary to one another. But they were far too similar. On the other hand, it was the differences in their characters which acted to the detriment of their common enterprises. The greater laziness of one corresponded to the greater carelessness of the other. Even if one could have kept his balance, the two together became so unstable that they could not help going wrong, a fate which in its way is peculiarly tragic.

A CASE OF ENVIRONMENT

THE Schweizer twins, Ferdinand and Luitpold, now thirty-three years of age, were separated when they were eight and since then have met only occasionally. Their mother, who was a busy, bright, good woman, died at this time. She had been seduced by a promise of marriage, but after the birth of the twins, had been deserted by her lover. Later on she married another man, and after her death the boys were taken in by different families. Their father is said to have been a respectable workman. The mother's parents were decent people. But her sister's three sons—cousins of the twins

—all became criminals. Their father and his brother were both drunkards.

The mother brought up the twins lovingly and well. After their separation their situation altered for the worse. Luitpold was taken in by a family who were fond of him and with whom he remained for many years. But Ferdinand was badly treated. Both were good scholars and were never seriously ill. When they reached continuation school—attending different ones in different towns—both were punished for playing truant. Ferdinand was reprimanded and Luitpold was punished.

Let us take their careers in turn. Ferdinand's first protector was a small merchant, later a "dealer," the next, a peasant with whom he lived until he was fourteen. He was treated severely and without affection during this period, but the severity was well deserved. As a result he behaved well at school, had very good marks for industry and conduct, and attended school regularly. He left the peasant household to live with his grandmother, who obviously had no hold on the boy and gave him his way in everything. He stopped going to school, and as already stated, was punished for it. He was to become a baker, but was apparently not physically strong enough. He got work at odd jobs by the day, but since—according to his own and his grandmother's

opinion—he did not earn enough at it, he thought it would be far better to stop work altogether. So he found other things to occupy his time. After having again been reprimanded for misconduct, he managed, by the time he was sixteen, to become involved in a series of dubious adventures. His reputation at that early date was already bad; his teacher stated that the boy had not been to school for months, he had missed at least ninety per cent of his school time. He preferred to wander about. On one occasion, in the company of some other tramps, he entered a strange garden and spent several nights in the arbor there. He found some alcohol in the garden to which he set fire, a pair of lady's shoes which he stole, and a hammer which he took to knock off the heels for his own use. During the day he made friends with a feeble-minded errand boy, who was in the habit of pocketing the money given him by his employer's customers. Ferdinand persuaded him to part with enough cash to buy his food. Then he shifted the field of his activities and spent his nights with several young, but thoroughly bad lads in a shed belonging to a brewery. One of the gang discovered a stock of zinc-lined ice chests in their hiding place. Day by day the gang tore off large portions of the metal and pawned it. To account for having it in their possession, Ferdinand in-

vented the story that a pig-sty at his home had been demolished. In addition to stealing, the boys enjoyed themselves by smashing various brewery properties. Before this was discovered, Ferdinand had been caught taking fruit. Proceedings were begun against him on two occasions and he was sentenced to one month and ten days' imprisonment and a fine of sixty marks for his series of crimes, consisting of abetting embezzlement, two thefts, stealing fruit, and trespass.

There is no further mention of Ferdinand in the police records for several years. He was employed in various places as a day laborer or servant until just after the outbreak of war, when he was conscripted. A few months later he was condemned to five years for desertion. His sentence, however, was postponed and he served as a dispatch rider until the end of the war without getting into any further trouble. When the war was over, he tried his hand at profiteering. He married a most unpleasant woman, by whom he had a son. An official investigation of Ferdinand's situation revealed ghastly conditions in his home. One room was filled with goods for sale, the other served as kitchen, living room, and bedroom. He and his wife and child lived in it, but they were not the only occupants. All sorts of people came to dance, drink, gamble, and play at disorderly games.

Ferdinand was sentenced for allowing his wife to misconduct herself in his presence and that of his little boy, while he was misbehaving with another woman. He is said to have told this woman that he had no more use for his wife. However, witnesses agreed that when he discovered his wife's immoral relations, he turned the man out of the house. He received one year's penal servitude for procuring. As soon as he was imprisoned, he was sentenced to close arrest for having damaged a new pair of shoes by cutting off the uppers. Otherwise, his behavior was fairly good.

Immediately on being discharged, Ferdinand started trading again. He drank, smoked between fifty and sixty cigarettes daily, and had affairs with women, one of whom, a divorcée, bore him three illegitimate children. He finally went to live with her. Meanwhile he tried repeatedly to work; once he stood it for five consecutive months, but in the end he found it too hard. Another time he was dismissed because he got a girl into trouble. In 1927 he acted as look-out for a burglar who, he declared, had led him astray. His sentence for this was four months and he served it without causing trouble. But on the day of his discharge he was picked up drunk in the street. He returned to his old environment, although he had promised his twin brother to leave his

bad companions and the town itself. In the meantime he had married his mistress. At present he is out of work.

On the whole, Luitpold got on better. As already stated, during puberty he was punished with detention for missing school. When quite young he was a notably heavy smoker. He stayed with his adopted father until he had finished learning his trade. But then he vanished into thin air, just at a time when his help was urgently needed. With the exception of the father, who always took his part and does so still, his adopted family haven't a single good word for him.

During this time Luitpold was only sentenced once. At the age of sixteen he had an affair with a girl who was unfaithful to him. He threatened to have it out with his rival and lay in wait for him. The rival, however, turned up with a friend and a rope to give Luitpold a good beating. During the struggle Luitpold drew a large, heavy knife and wounded his enemy superficially, and was in turn beaten almost to a pulp. The court decided that he had acted in self-defense, although he had gone too far, and he got off with only one week's imprisonment.

In spite of being an unstable boy, Luitpold managed to keep clear of jail and worked at his job until he was

conscripted. He was seriously wounded at the front and discharged in 1917 with a large pension. He then married a waitress by whom he had a child, but they were soon divorced. According to his story, he took this step because his wife was unfaithful to him, and he admitted that he had beaten her often for the same reason. He took the blame in the divorce proceedings, according to his own statement, although he no longer had a copy of the judgment. The records, however, show that Luitpold spent his wedding night, not with his own wife, but with a former mistress! This was not denied. He continued to associate with his mistress and passed her off as his wife, so that he could continue his relation with her undisturbed. After fourteen months this "marriage" was broken off owing to his real wife's complaints.

Ferdinand even surpassed this. Although his first marriage had lasted more than six years, he and his wife had been separated since his sentence. He was living with at least two women, each of whom bore him a child. This is in the records of the divorce. He also was divorced on his wife's application.

Some years ago Luitpold married a very energetic woman, who took him firmly in hand. He was only sentenced once again, when he received a detention with the option of a fine for a trade irregularity. He started a

business of his own, but was unable to keep it going. At the present time he is working at his trade and earning regular wages.

However, he is not altogether a reformed character. Let us consider what his present wife has to say—a frank, straightforward person, who knows her own mind. She married him in 1920. At that time he had so utterly gone to pieces that his foster-father had to take him in. He had not a whole suit of clothes to his name. Even to-day he is an untidy person, like his brother. His wife does not trust him and insists on keeping her own property to herself. Marriage has certainly improved him and he obeys her like a child. He has no will of his own, and does everything she tells him to. She will not allow him to go out alone; if he gets into bad company there is nothing to be done with him. She insists on his attending church and mission services with her, which he never did before. Whereas he often used to drink twenty-four glasses of beer in a day, he is now forbidden to drink at all and obeys. He used to be a passionate gambler; she tells us "I got him out of that." He still likes to smoke and consumes about ten cigarettes a day. Here also his wife restrains him. If he has a great deal of money, he spends a great deal. He may be a fireside hero, but not to his wife. He is good-natured and tender,

generous, and socially agreeable, popular, cheerful, and musical. As a husband he is most considerate. He is so sentimental that he often cries in church. So the marriage is a success, although his foster-father often warned his wife not to marry such an irresponsible fellow. According to a witness, Luitpold's former wife occasionally visits him, but apparently this does not bother his present one. In view of earlier events, it is by no means certain that these visits are entirely innocent.

Luitpold has almost nothing to add to his wife's data. To the doctor he wrote as follows about his brother: "I wanted to give him clothes and money and get him a job so that he could work hard and lead a decent life. But as I cannot tolerate drink and slovenliness, and as he refused to do as I wished, I will have nothing more to do with him in future."

Luitpold was born first, and is probably the more intelligent, though always a little weaker. He still is. Even to-day the twins' resemblance is astonishing. When they were young it was so great that people invariably confused them. Luitpold's wife can recall instances of this kind. They have the same complexion and their physical measurements show that although Luitpold is taller by two centimeters, he weighs six kilograms, less than Ferdinand. This may be a result of alcohol. It

must be emphasized that Luitpold is both more quick-tempered and sexually less active than Ferdinand. Luitpold's vasomotor system is very unstable; he came back from an interview with his brother weeping and deadly pale. In general he grows pale when excited. Both brothers are easy to get on with and give information frankly and willingly. To judge by appearances, their behavior is as strikingly similar as are their characters. All our informants agreed on this point.

Owing to the death of their mother, the Schweizer twins were separated at the age of eight and were brought up in entirely different surroundings. Luitpold found a second home with his foster-father and master. Even to-day, in spite of his irresponsibility and ingratitude, the attitude of the old man toward his charge is fatherly. The kind old fellow is unwilling to talk about the unpleasant incidents in Luitpold's life. Ferdinand was not so kindly brought up. After the strict discipline he endured at the merchant's home, he was transferred to the harsh exactions of a peasant. He soon ran away to his grandparent, whom he treated as he liked.

At first sight the later careers of the brothers seem sufficiently different to indicate the different educational influences of their childhood. But closer study shows that they were made of the same stuff. Both were com-

pletely lacking in will-power and became the creatures of whatever environment they happened to fall into. Their dissimilar backgrounds may have been partly responsible for their later choice of companions, but that is as far as the facts would justify one in going. In spite of all differences, the similarity of their destinies remains the most striking feature of all.

It is worth noting that while under the strict discipline of his early school years, Ferdinand got excellent marks for industry and good conduct. It was not until he felt his grandmother's indulgence, that he began to go wrong. In spite of their unlike circumstances, both brothers were punished during puberty for playing truant; Luitpold the more severely of the two. It is also important to remember that Ferdinand's conduct during his military service and later in prison was quite satisfactory. He will always behave himself so long as he is subject to rigid discipline. The same applies to Luitpold. Although he was irresponsible while living with his kind-hearted foster-father, he did not get into trouble; but as soon as he had run away, he began to lead a loose life and took to drink and women. Just like his brother—he went thoroughly to the dogs. Under the supervision of his second and strong-willed wife, who

orders his life as if he were a child, his conduct is exemplary.

As we have said, neither twin has any will-power. When married to their first quite impossible wives, their proclivity toward mischief was past belief. Luitpold's behavior, in spending his wedding-night with another woman, was more than amazing, and one would have to go far to witness a home life as appalling as Ferdinand's. Both are and always were pretty free in their sexual lives and no one knows how many illegitimate children they have; also both drink and smoke to excess unless some one else submits them to strict discipline.

Such circumstances would scarcely allow us to attribute their different careers, including their criminal activities, exclusively to the educational influences of their childhood. Early environment exercised about the same determining influence on both; but no one can overlook the similarity in their personal characteristics.

Ferdinand committed his youthful misdemeanors in bad company. After his desertion, his conduct in the field was so good that his sentence was cancelled. Under the unfortunate influence of his first wife, then of the mistress who became his second wife and who obviously ruled him, his moral level was at its lowest. And no one knows better than Luitpold's present excellent

wife that he would sink if the props were taken out from under him.

Luitpold's knifing episode and Ferdinand's anti-social behavior during his early exploits and at the beginning of his prison sentence prove that both brothers are capable of brutality. But their lack of self-control goes deeper than this. Superficially there is all the difference in the world between the respectable workman and fireside hero who weeps in church, and the drunkard who was continually being picked up on the street and turned his home into a brothel. Yet these two contrasted pictures are built up by different outward influences working on the same material. Whatever "lessons" their fate might have impressed on them would have escaped them soon enough. A few years ago the fireside hero of to-day went completely to the bad and the burglar's look-out and drunkard was a soldier with a record good enough to wipe out the charge of desertion.

It is possible that Ferdinand's drunkenness may have undermined him absolutely. Accidental circumstances might reverse the whole picture and it would not be at all strange to see Ferdinand one day where Luitpold is now, and Luitpold in his brother's unenviable situation.

Such conjectures may be misplaced, but the brothers are being followed up and their life histories will be com-

pleted. On the whole it is plain that the records of the Schweizer twins reveal the influences of environment. However, their conduct is not determined by environment itself so much as by innate tendencies, which make them both susceptible to circumstance—whether good or evil. It seems that in this case, also, inherent traits remain the decisive factor.

THE TWO DIENERS

THE resemblance between Karl and Ludwig Diener, now twenty-four years old, was so great that even their parents could only tell them apart by a scar on the left ear of one of them.

Their early environment was most unfortunate. Their father was a drunken rascal, who deserted his family for many years, ostensibly because he could earn more money at a distance. But after his return the family turned on him for his drunkenness, his dislike of honest work, and his constant quarrels with his wife. He was both stupid and irreligious. The mother seems to have been a decent person, but she could not keep her sons in order. She is also said to have had a nagging disposition. The eldest son is twenty years older than the twins, is

a communist, and drinks like his father, but has nevertheless got on in life. During his boyhood he once got three days' detention for breaking the forestry laws. The second son, who looked after the twins faithfully for a long time, was remarkably industrious, capable, respectable, and sober. He was killed at the front in 1916, and the family thus lost its principal support. The third son, now twenty-eight, is said to be the most intelligent. Otherwise nothing much is known about him, except that he was once sentenced to three months for assault and battery. Five other children died young.

The twins were the youngest surviving members of the family. Karl was born first, Ludwig half an hour later. Ludwig is said to have developed more quickly, and Karl was unable to walk until he was two and a half and to talk until he was three. Both had the usual children's diseases, as well as diphtheria, and Karl had pneumonia when he was fourteen years old.

Their upbringing was obviously bad, especially after their second brother was no longer able to take care of them. They were indifferent pupils at school, and their conduct was poor. On leaving school, if not before, they were known as the worst boys in their district. They certainly worked and brought their money home, but they went about in doubtful company. They drank and

although usually good-natured, alcohol made them quarrelsome. Ludwig's first recorded sentence was passed when he was eighteen. With two comrades he stole some old iron from a scrapheap, for which he received three days' imprisonment. Both twins were involved in the next crime. One day in the winter of 1914 they emerged rather drunk from a saloon. A snowball hit Ludwig and he began to abuse a group of men standing nearby. The row developed into a fist-fight, and after Ludwig had been hit in the face, to a free-for-all, in the course of which Karl drew his knife and wounded one of his assailants in the hand, at the same time stabbing him in the stomach. According to the records, their enemies failed to put up much of a fight. Ludwig was sentenced to two months; Karl, who in addition had insulted the police and resisted arrest, was given four months and one week's imprisonment.

After serving their sentences, during which their behavior was good, Ludwig turned over a new leaf, settled down, drank less, but continued to lead a freer sexual life than Karl. Karl declares that as a result of this, Ludwig has now become the exact opposite of himself. Karl went on drinking and keeping bad company. Less than a year after his discharge, he was drinking with a boon companion when his friend, who was very drunk, started

a row in the saloon and then began smashing things on the street. Karl tried to stop him, and ended by making his friend angry. He was taller and stronger than Karl, although he was the drunker of the two. He abused him, followed him, and once knocked him down. He also knocked down and kicked a passer-by who tried to assist Karl, as well as a woman who also tried to help. Then came the tragedy. Karl pulled his knife and, as the court decided, stabbed his adversary, not in self-defense, although he maintained that his life was in danger. His knife went through the skull into the brain, causing an abscess from which the victim died a few days later. Karl was sentenced to two and one half years for homicide. He served his sentence without giving any trouble and towards the end of it was put in the second division for good behavior. He has now been set free.

In spite of the differences stressed by Karl, the two brothers are extremely similar in all respects. They are both distinguished by a certain degree of irresponsibility, together with abnormal excitability. Like their father and brothers, both are addicted to drink, which leads them to crimes of alcoholic excitement. It was a mere matter of chance that one of them was sentenced for a crime that the other did not commit. Nevertheless, Ludwig seems to have reformed and it may not be

simply luck that he developed more quickly in childhood. He was born last and was fortunate enough to have come into the world under more favorable obstetrical conditions. This detail may be particularly important in the case of twins owing to the very high risk of damage to the brain in their case.

Innate tendencies, combined with the effect of alcohol, may have provided the background for the criminal records of these two, and an unfortunate environment may have done the rest. Hereditary traits in themselves were not alone responsible, although the brothers' delinquencies show that they were important. However, I should like to think that were it not for the evils of drink, which in our country are still fairly general, the two Dieners would not have become criminals.

A PAIR OF PERVERTS

FOR certain reasons I am unable to go into details in the case of the Brothers' Maat. These characteristically similar twins come from an excellent family. They are both extremely "nervous." They suffer from a great variety of neurotic symptoms, including fear neuroses and disturbances in the nature of fits; one of

them occasionally suffers from compulsion neurosis as well. In addition, they reveal various idiosyncrasies, some of them alike, some more or less different. They were difficult to bring up and although all sorts of treatments were tried for long and short periods, neither of them improved a great deal. They are now in their middle twenties and it is hard to see how they can ever go very far. They have been separated for several years.

Both are extremely cold, egocentric beings, without any human affection, without sympathy, respect, or liking for their parents or any one else. They got on badly together until after puberty. At that time their troubles brought them a little closer. But their mutual friendliness was due to nothing more than interests in common. Each is extremely anxious for his own welfare and indifferent to that of others.

Occasionally, when examining them, a few normal traits came to the surface. The investigation, however, revealed that at bottom they were both, and had been for a long time, sexual inverts. Both had had homosexual relations from puberty onwards, and as a matter of fact, had been kept by a homosexual friend as long as he was able to afford it. Neither has been sentenced as yet in Germany, but one of them was imprisoned for homosexual activities while abroad and the other barely

managed to escape arrest. They are both completely amoral.

Their influence on one another had little to do with their perversion. They spoke with revolting tactlessness and a total lack of moral sense in describing frankly and unashamedly the most painful incidents. But all questions with regard to common sexual experiences, mutual masturbation, seductions in common, etc., were answered with emphatic negatives. It was only after each brother had independently recognized his tendencies that they discovered their similarity in this respect and showed the same industry in supporting themselves by their perversion.

Other members of the family do not show the same tendencies, but they do reveal other sexual anomalies. It was not possible to ascertain experiences at home which might have turned the Maats toward inversion, although the investigator had a wide knowledge of sexual behavior and was well read in the literature. At present one of the brothers seems to be heterosexually inclined, the other to be bisexual. I hardly need add anything further to this account. It is unquestionable that innate tendencies predominate in this case. It is nevertheless possible that mutual influence was partly responsible for the brothers having transgressed the law.

On this point it is impossible to divide the responsibility between heredity and environment.

SISTER CRIMINALS

ANTONIE and Amalie Messer are now thirty-one years old. They were always extremely alike, and even their husbands occasionally confused them. They are now stout, cheerful women and not particularly prepossessing. The smallest misfortune depresses them to the point of contemplating suicide. Antonie, who is easily excitable, has at various times attempted to kill herself by gas, although probably she would not have gone through with it.

Their father was a very decent man and strict with his daughters; their mother was "too good." On three occasions she gave birth to twins, but our subjects are the only pair still living. There are ten other children alive; the twins are the sixth and seventh. Their brothers and sisters were apparently quiet children, but the twins only got on well until they left school. They were a source of anxiety even when very young. If they fell or hurt themselves, they went into "tantrums" and this habit lasted until they were five years old. "They are only half human" their mother wrote in 1915. Both

were good scholars, although careless. They ran away from home on several occasions and when they were sixteen it became necessary to try to get them into an institution for observation. According to the report of the Board that took them under supervision "the twins have not yet been punished, but are of a most irresponsible disposition." Towards the end of 1912 they ran away from home and went into service in towns M. and F. They soon left their positions, however, wandered about without employment, lived immoral lives, and returned home at the beginning of April, by which time they had gone entirely to the bad. On April 27th, 1913, they ran away again and went to L. On April 29th their father brought them home.

The very same day both again slipped through their parents' fingers. On May 3rd their father ran into Amalie in a candy store in M. He had to apply to the police for help before he could get her home. She then had to go to a hospital for a venereal disease. Antonie at first idled around a candy store in L. and then went into domestic service in the same town. Both twins were promiscuous in their sexual relations, and were so far corrupted that their parents were unable to reform them or to protect them. The church, the local orphanage board, and the district authorities recommended official

supervision for both twins. Although they were over sixteen, their immoral lives and their urge to vagrancy made official supervision imperative to avoid their complete ruin.

In the reformatory Amalie behaved herself, but owing to her excitability Antonie got into trouble several times. She was sent to different institutions and once to a psychiatric clinic. Nevertheless their compulsory education seems to have had some fairly good results in both cases.

After their discharge both, although they were now separated, led completely loose lives. Antonie became pregnant, and in order not to have an illegitimate child, married—but not the father of the child. Some of the later children were her husband's, but she named various men as the fathers of the first three or four, among others a brother of her brother-in-law's. However, her unhappy marriage continued. The husband was an excitable drunkard, subject to hysterical attacks. He ill-treated his wife and children, pawned the furniture, and quarreled with his relatives. Antonie consoled herself with other men and often left her husband, but she worked hard, kept her home clean, and looked after her children. In this respect she was exactly like her twin sister.

Amalie married much later, but in the meantime led the same sort of life as her married sister. She had one lover after another, chiefly foreigners, for the most part Frenchmen. She was also kept by a Siamese and was probably unfaithful to them all. Her conduct as a married woman is not clear. Her husband, a tradesman at present out of work, who lives on her earnings, is certainly unfaithful to her. From what we know of her, it is unlikely that she is much better than he.

Both sisters had mysterious conflicts with the law. As has already been said, Amalie had an affair with a Frenchman, but claimed not to know he was married. He finally deserted her and a theft was discovered in his lodgings where Amalie had been. She was detained for examination and also in the hope that she might divulge the address of the fugitive. Nothing definite, however, could be proved against her. She herself is silent in this matter, a bad sign according to general experience in her case, for as a rule she only conceals facts which show her in an altogether bad light. At other times she is talkative enough, and is not too sensitive even when delicate matters are involved.

Antonie was served with a warrant, sentencing her to two months' imprisonment for procuring. She accepted it, but this incident also is mysterious. Her twin

sister had brought her, out of pity, a prostitute, whom she, also out of pity, took in. She discovered too late that the prostitute brought men home, and then put her out. But the woman in question had seen too much. She brought a charge of procuring against Antonie and also gave information on the questionable conditions prevailing in her home. Antonie only heard of this at the police examination. In order to hide her guilt from her husband and to avoid for the sake of her children a divorce in which she would be the guilty party, she refused to allow the case to come into court and so had to accept her sentence. Apparently she took it in good part, although she was deeply depressed, attempted suicide, and worked off her troubles on those who were unfortunate enough to have to deal with her. The woman doctor who examined her did not consider her story entirely improbable, although almost everything the sisters say is subject to closer investigation. Since their sentences, the twins are no longer friends, as Antonie considers Amalie to blame for her imprisonment.

It is unnecessary to stress the extreme similarity in the social behavior of these twins. A constant sexual urge and lack of self-control decided their destinies, which are only outwardly a little different. Whatever

other guilty acts they may commit will have the same sexual background.

With regard to this pair I have restricted myself to a few facts only and have merely mentioned in passing differences in emotional reactions conditioned from without. These do not concern our problem. Were they not sexually entirely without self-control, neither would probably have begun to go wrong when still quite young.

PETTY THIEVES — THE KRÄMERS

GEORG and Adolf Krämer, an extraordinarily similar pair of twins, are still quite young, not much over twenty, but both have already been sentenced for different delinquencies. Their parents' families are generally respected in their home towns, but the paternal grandfather was a fiery-tempered, brutal man and the father obviously resembles him. He is silent, unsociable, but very industrious. In his youth he drank a great deal and was several times sentenced for assault and resisting arrest. Now, however, he is moderate, does not go out much, has not come into conflict with the law for a long time, goes to church, and is a good family man. His sons' careers seem patterned on his own youth. The

three eldest are all hot-tempered and unsociable. One is described as rough, the other two are cold and addicted to drink. All three have been sentenced for assault, getting respectively eight days, seven weeks, and eight weeks with various lighter sentences. Their misdemeanors always occur under the influence of alcohol. The brothers are otherwise prosperous and industrious. The mother is a quiet, serious, self-sacrificing, careful woman, who lives solely for her family. She has had ten children and they are all healthy; the younger ones, including another pair of very similar twins, are intelligent and have so far kept out of trouble.

Only Georg and Adolf are a bit dull and both once failed to get promoted because they found lessons difficult. They were brought up together, strictly disciplined, and are still living at home. They did not learn a trade, but worked regularly as day laborers. They gave most of their wages to their parents. They are quiet, slow-moving and slow-thinking, hard-working, stupid and monosyllabic, and on the whole still unspoiled. Both are obviously shy, especially Adolf: "When I go through the village and people stare after me, I go quite red," he told us. Georg also blushes easily, although more when angry. Both perspire heavily. They are extremely suggestible. In prison Georg was susceptible to the in-

fluence of any fellow-prisoner. He lacked the courage to contradict or to argue with other convicts. All his crimes were committed in company and under the influence of evil associates. On the whole, he seems more excitable and sensitive than Adolf. Neither has as yet had anything to do with women.

Their replies to intelligence test questions were very thin. Possibly Georg showed himself slightly better than Adolf, who believes himself brighter than his twin. But Georg cannot give up drink. Adolf only takes three or four glasses on occasion and during the working week hardly anything at all, but Georg drinks six to eight glasses regularly and when drunk becomes excitable and brutal. He is known as a trouble-maker and a fighter and is badly spoken of, although his reputation is not bad in comparison with other members of his community, including his older brothers.

Adolf has not been sentenced for assault. His trouble arose over a matter of stealing. The incident occurred during his sixteenth year, when he was sent to fetch beer for the family. While the bartender's back was turned, he took a note for a fairly large sum out of the till. His conscience pricked him very soon, he was afraid of discovery, and ran back with the money. He met the bartender accidentally on the way and excused himself by

pretending he was his own twin brother. He was sentenced to two days' imprisonment or a fine of thirty marks. A later remark to the examining doctor indicating a perfectly clean record in this respect proves that he can still lie.

But he may have meant that he had not yet been punished for assault. Georg has already been sentenced three times for this and further proceedings are pending against him. In 1926 on two occasions he was given eight days and fourteen days respectively; in 1927 fifteen days. His present sentence of four months' imprisonment was due to a rather stupid stabbing affair which occurred after heavy drinking. Two of his brothers and a well-known wielder of the knife were present, but only Georg used his weapon and wounded his opponent three times, although not seriously. One of the Krämer brothers is said to have started the fight.

Adolf was punished for a petty theft, Georg has been sentenced several times for crimes committed when drunk. It should be emphasized that he only commits these crimes under the influence of alcohol, when in the company of various quarrelsome acquaintances. His last offense was against a notorious "knifer." It is difficult to imagine such a timid creature doing violent deeds in his ordinary state of mind. He needs alcohol and the cour-

age inspired by the company of others to rouse him to brutality.

It is interesting that, in spite of their surprisingly similar conduct in general, and their unusual physical resemblance, there are noticeable differences between these twins. Georg drinks more heavily, but that is apparently not due to an inherent difference. In May, 1926, before he committed any of his misdeeds, he was hit on the head with a jug and remained unconscious for three hours; he may have sustained more than slight damage to his brain. In view of this, a further dissimilarity between the twins is especially noteworthy. Although their height is the same within a few millimeters, Georg's measurements from waist to feet are longer by 3.9 cms. than Adolf's, which is a great deal considering their average height of 165 cms., particularly as Adolf's leg-length is unusual. This indicates a certain degree of asexuality which emphasizes the testimony that these two sturdy lads have no use at all for girls. The height of the head from the neck is much less in Georg than in Adolf, namely 27.3 as against 31.5 cm. Adolf's head is also broader by 1 cm.

Georg was eighteen years old and therefore not yet fully grown when he was hit on the head. As has been said, the lengthy period of unconsciousness which fol-

lowed points to serious injury to the brain. If one takes into consideration that in such cases there is often slight bleeding at the base of the brain, it is possible to put down the physical differences in the twins to this blow. The existing mental differences may be assumed to be closely connected with physical ones. It must be admitted, however, that this is only an hypothesis. We have no earlier measurements, and it is indisputable that differences of this kind exist between monozygotic twins, even without a previous history of injury to the brain. It is also a fact that at the time of the blow Georg was no longer a small boy. The sexual development of both brothers is certainly backward. At the time of his accident Georg was probably going through a critical period. All these facts rather confirm the theory.

Taking the term criminality in its wide sense, the behavior of the Krämer twins agrees; but the nature of their crimes is different. This being the case, it appears important that not only mental, but also physical differences exist between them, which might account for the dissimilar types of crime they committed. It appears no less significant that the final cause of their differences is probably a serious brain injury sustained by Georg while he was still developing. It is by no means accidental that Georg Krämer's brutality keeps on

emerging in the guise of alcoholic pugnacity. He has certainly inherited a tendency toward it, as a comparison between him, his father, and his brothers proves. In his case, an injured brain brought tendencies to the surface which in Adolf have not yet revealed themselves. Finally, I should like to mention that the physical measurements were taken by my colleague, Mr. Gruber, who was unacquainted with the nature of the investigation. Therefore, there can be no question of prejudice, quite apart from the fact that my former colleague attributes far greater importance to environmental influences than I do.

DISCORDANT TWINS

The foregoing cases have shown us again and again the profound influence of innate tendencies. The cases that are to follow concern twins whose criminality reveals the greatest differences. They should, consequently, give us a complete picture of environmental influences. We will see this picture develop, but it will vary in many respects from the one we might expect. There will be little enough trace in it of influences which affect the mental faculties only.

THE HIERSEKORN BROTHERS

OTTO and Erich Hiersekorn, now twenty-four years old, are trained and skillful workmen. Their family

record is excellent, and quite free of mental abnormalities. Three years ago Otto received a short term of imprisonment for homosexual activities. He has had no other sentences and Erich has never had any trouble at all with the law. The brothers' lives have been on the whole uneventful. They have done well, earned good wages, and live in decent surroundings. Erich is courting a girl of good family. Otto, on the other hand, has a deep and jealous "friendship" with a very well educated, exceptionally intelligent, competent, and refined man.

The physical and mental differences between these twins, who were once so much alike that no one could tell which was which, are important. At school their teacher requested that they wear suits of contrasting colors in order that he might distinguish between them. It is still obvious that they are twins, but it is easy to tell them apart. They have a good deal in common mentally as well as physically, but there are also radical differences. First of all, Erich was always distinctly the more intelligent. He was quick at his lessons, got through school without trouble, and has exceptional practical ability. He works regularly at his job. Otto, on the other hand, was slow at school and once failed to get promoted. His mother spent much useless trouble on him, but he could never learn to do sums. The twins'

differences in character were from the beginning equally emphatic. Erich was serious, straightforward, frank, absolutely truthful and steady. He knew what he wanted to do and followed a definite aim. He was satisfied with what he accomplished. He was slow, but sure, always sensible and matter-of-fact, healthily conscious of his desires and definitely masculine. He was, in brief, an excellent young man, inclined to priggishness. He is not particularly excitable or sensitive, but he can be aroused and is determined to get his own way. He resents an insult and if any one steps on his toes, he knows how to defend himself.

Otto was quite different. He was always to the fore in any mischief, just as Erich was in serious affairs. He was gay, did not mind a bit of teasing, exaggerated, told people tales, and finally came to believe in them himself. He is easily led, very suggestible, moody, and unsettled. He was a great chatterer, conceited and boastful, especially about his physical appearance. He was constantly wanting to get on and to play an important part in life. His temper was quicker. He was interested in a variety of things, but was superficial and changeable in his tastes. He was excitable and sensitive and quickly boiled over, blushed easily, but did not bear resentment. He had a good deal of luck.

Both twins are deep sleepers, Erich even more so than Otto. Both perspire remarkably easily. They are moderate drinkers on the whole. Alcohol tires Erich and makes him sleepy; Otto, on the contrary, brightens up. It makes him witty and talkative. Every one is astonished that such a young man can have "so much intelligence, so much experience and such ideas." (This is probably homosexual flattery.)

Erich always preferred boys' games, whereas Otto liked to push the perambulator, to play at nurse, or help in the kitchen, and was generally more fond of feminine activities.

His mental development was quite similar to his brother's. Both got on splendidly together and were always treated exactly alike. They were never jealous of one another. Otto thought, however, that he got less at meals. When he missed promotion at school he was sorry, but only because he was no longer in the same class with his twin. Both brothers agree that this occurrence did not affect Erich's vanity. Nor did it drive him to make greater efforts. Otto was the first to mature sexually from the physical point of view. He masturbated, although not to any great extent, and still does so occasionally—another point in which Erich resembles him. Erich's sexual development, aside from this, was

quite normal. He had his first experience at nineteen and, as his temperament would lead one to expect, has only had three affairs so far. His sexual instinct is normal although not very powerful. He intends to marry his present girl, whom he has been seeing for nine months, without having had any intercourse with her. She is a girl of good family; moreover, outward circumstances are not favorable and Erich does not like awkward situations. He strenuously denies any attraction to his own sex. It disgusts him to think of such a thing. He cannot imagine how any one could have physical relations with another man. Erich has been very successful with women and is proud of it.

At puberty Otto admired male forms, although without thinking anything of it and without conscious sexual excitement. At that time he did not indulge in mutual masturbation. He was very fond of bathing. Otto had his first conscious and surprising experience of sexual excitement in the presence of males when he was eighteen years old. He was called to the colors and in a military camp saw for the first time several unclothed young men. He had previously had occasional intercourse with women, but without particularly caring for it. He continued to do so for a time after this first homosexual experience. At the present time he has had noth-

ing to do with women for years. They do not attract him in any way. Otto was always very curious about questions of sex. He read a great deal on the subject, afterwards he consciously sought the company of men and allowed himself to be "seduced." He himself then seduced another young man. He got himself talked about. One day as he was dawdling along the streets in a suggestive manner, he was taken up by a detective and made a frank confession without being obliged to do so. In reality he was never a "fairy." He was given a sentence of fourteen days, which for certain reasons could not be canceled although those in charge would have liked to do so.

At present Otto is definitely an invert of the passive type. His sexual vanity is considerable; he talks in a painfully coy manner of his stately figure, throws out his chest, etc. During his physical examination his behavior became noticeable owing to its similarity to that of a certain sort of girl. Even when his head was examined, he breathed deeply, rolled his eyes, and indulged in sexual mimicry. It was entirely because of this that his previous history came to light. The examination was being made in the course of other investigations of twins.

Both brothers were apparently injured at birth. Erich

had a damaged shoulder from early childhood; Otto's right cheek was flaccid and he suffered from a twitching of the face of an organic origin. Otto is of lighter build, he has a more slender and rather narrower head and is not nearly so heavy as the athletic Erich, who reminds one of a boxer. The extremities are substantially less developed in Otto than in Erich and Erich wears one size larger shoes. Finally, Otto has definitely less pubic hair, and its upper border is somewhat of the female type, although not extremely so. Above the mons veneris he has the typical female fold, and breasts of definitely female appearance, as opposed to the masculine conformation of Erich's.

In spite of these many differences, there is not much doubt that the brothers are monozygotic twins. Apart from their identical complexions, they have exactly similar fingerprint patterns with the exception of one index finger. This is very common in monozygotics. While there are many differences in expression, the resemblances in so many definite characteristics are so great that they can only be due to monozygotism. Their general appearance is also strikingly similar.

This case reveals in twins of the same heredity a definite and comprehensive difference in sexual orientation; one is heterosexual, the other homosexual. This

difference corresponds to one of the same kind between the secondary physical sexual characteristics. Parallel to these, the psychology of one twin is extremely and specifically masculine, whereas that of the other has a strong feminine tendency.

Owing to his perverse sexuality and his corresponding lack of self-control, Otto is a law-breaker while his heterosexual twin does not come into conflict with it. Both twins bear the marks of lesions in early childhood, probably received at birth. The heterosexual one has a damaged shoulder, the homosexual one is imperfect on one side of the body, which seems to prove a brain lesion, probably of a deep-seated character. An expert cannot help feeling convinced that there is some connection between this brain lesion and his sexual abnormality.

The difference in their behavior from the legal point of view seems chiefly due to strong physical influences, although in this case as always, these do not become significant except in connection with particular experiences. The latter would have no effect if they were not brought to bear on a certain type of human material.

A BRUTAL MURDER

MANY years ago Xaver Ball, then twenty-six years old, murdered most brutally a girl who was alleged to be going to have a child by him. His twin brother, Johann, who closely resembles him, is now an entirely respectable peasant more than fifty years of age. His whole family is decent and hard-working. All the relations have perfectly clear police records. Ball was sentenced to death, but was reprieved.

I should like to state at once that I should certainly not have considered Ball responsible for his actions. I should at least have had serious doubts as to his fitness to plead and this seems to have been the opinion of one of the three legal experts on the case, while another of them came very néar to sharing it.

The whole of the record leaves one with a particularly strong impression that the examining judge did not understand the case. He busily pursued every fact against Ball, but it is obvious that he knew all the time they did not make sense. Even the prosecution was uneasy, and with good reason. In consequence efforts are now being made to have Ball set free. His sister has not the least fear that if he were set at liberty he would get

into trouble. At the time of the crime, it was generally admitted that Ball must have been mad.

This is certainly the first impression one gets from the record. The crime itself was unusual. Ball was having an affair with the daughter of a school teacher. As she already had an illegitimate child by another man, she was determined to marry Ball. He did not wish to marry her and tried to keep free, but he liked girls and now and then went with one. He attempted sexual intercourse, but without success. He was stupid and clumsy and could not express himself properly. Only on one occasion, after a dance, was he successful. A few days later the girl told him she was pregnant. He did not believe her. But two months later there was no doubt of it. He went to the woman at whose inn the dance had been given and told her about it. She told others. At that time Ball was not well. He seemed to be absent-minded, had no appetite, vomited often, and was physically run down. It was thought that there was some connection between his ill-health and the girl's condition; Ball denied it, not altogether unreasonably. He declared that he had been feeling unwell for months previously. He now thought that his fellow workers were making fun of him, which was not the case. On the contrary, they tried to console him because they thought he was de-

pressed by the dread of having to pay for his conduct. But their words seemed to him so many pin-pricks.

On the afternoon of the crime he went to sleep on a chair at an inn. Then he left, waited for the girl, and when she came, asked her to accompany him. She did so. They walked out on the highway. Ball began to argue with her about her pregnancy and she answered angrily. He boxed her ears. She hit back and he threw her to the ground and started to throttle her. A man with a dagger-stick arrived on the scene; Ball let the girl go and the man took her under his protection. Ball followed them and kept on inviting her to go home with him. Then suddenly he pulled out his knife and attacked her blindly, despite the other man. He ran away and stumbled, wounding himself in his fall with the knife he was still carrying open in his hand. In passing the place where he had tried to throttle the girl, he picked up the kerchief she had dropped and hid it under a bush. Then he went home and shortly afterwards a policeman found him asleep in bed with his hands still bloody. The policeman declared Ball was shamming, but his landlady, who knew him well, was convinced that his behavior was genuine. His conduct after the deed was dull and bemused. He could not take in the situation—the girl died shortly after—and observers

in the institution diagnosed pseudo-dementia. He could not follow the judgment and had to be told afterwards that he had been condemned to death. The photograph of him taken in prison shows an unusually empty, groping, and dispirited expression.

His pre-history was as follows: Ball was the first-born and at birth had a swelling on his head as large as a hen's egg, which later disappeared. When he was between two and four years old he was tossed by a cow and in consequence suffered for several years from nightly fits, described as epileptic in character. They disappeared at the time he started to go to school. At ten he showed curious symptoms of compulsion neurosis, which expressed itself in a passion for tidiness. These symptoms also disappeared in due course. A few years before the murder he fell from the floor of a barn on to the threshing-floor, a distance of six meters. He was unconscious and was ill for a week. The records do not reveal any definitely abnormal results. Nor could his sister, a most intelligent woman, give me any definite information. Neither could Ball himself, who certainly impresses one as of limited and clumsy mentality. But his letters and the data given by his acquaintances prove that his conduct has always been remarkably uneven.

In appearance he is strikingly like his brother. No

one could tell the two apart, only Xaver's "look" was different; he had a "crooked glance" just like one of his uncles, "a curious man." The twins' former teacher wrote: "What is true of one is true of the other . . . nothing bad to be said about their behavior. On the other hand, their abilities were very slight, and both of them had so little sense that I once said to a colleague, 'those brothers seem to have divided their intelligence also.' " They were always among the stupidest boys at school. It is said that another teacher gave them the highest marks for conduct—although on the street they behaved like urchins. This teacher thought Xaver was less "open," which agrees with his "crooked look." His twin talked well, was more lively, and suited to the profession of inn-keeping, although he was the lazier of the two. Xaver could not talk to people, was monosyllabic, often rough, and was more easily angered. But he was industrious and orderly, although no doubt the more stupid.

On one occasion both twins together were accused of rape. They arrived, probably drunk, at a very doubtful female's and proposed sexual intercourse to her. The prosecution was dropped because they had obviously committed no crime.

Ball now has a right ptosis and a paresis of the in-

ternus muscle of the right eye. His tongue habitually drops to the right. According to himself, he sometimes sees double. It would be interesting to ascertain how long this has been the case. The photograph referred to, when he was young, suggests a paresis of the right internus. His "crooked" look must be remembered. His behavior in prison has been generally excellent.

Personal impressions and his letters reveal Xaver Ball to be far from enjoying good health. My opinion is that he was suffering from traumatic effects which revealed themselves for a time in epileptiform fits and later in a tendency to abnormal states, in one of which he committed the murder. All information agrees in indicating a semi-conscious condition; his sleep before and after the deed is remarkable, and so is the deed itself with its several quite incomprehensible details.

I do not doubt that our assumptions made after the event, which, by the way, agree with the one intelligent expert opinion, are right. The case reveals disagreement between the behavior of the twins; but it is due to gross exterior influences and not to a difference in personality from social or mental causes. At the same time, this discordant observation is certainly not an argument against the great importance of innate tendencies in the perpetration of crime.

A CRIME OF OPPORTUNITY

NO one would take Otto and Ludwig Landsknecht now forty-one years old, for twins, and it would be quite impossible to mistake them for one another. Ludwig's neck and face are framed in a weird, soft goiter which joins his disproportionately small face directly to his body. He is also much fatter than his brother, who shows no signs of goiter. A closer inspection, however, reveals very definite resemblances in the features, and the growth and texture of the hair. The eye-color is similar and their hair, now turning gray, only differs in tint by a shade. The facial hair is similar. Otto is thinner and more finely built. His body is not so broad and his chest not so deep as his brother's.

Since these things have always been so, it was never hard to tell the twins apart when they were together. Their parents and teachers seldom confused them. Strangers sometimes did, provided they saw one of the twins by himself. The resemblance in photographs taken in childhood is greater than it is now, but even in these there are definite differences, not only in form and size, but also in expression.

Their tendencies to illnesses were also unlike, apart

from the development of goiter, which Ludwig derives from his mother. He went through a series of severe attacks of rheumatism of the joints, the first one occurring during his military service. He was laid up with it for several weeks but was not discharged on its account. He had a particularly serious attack during the war and the doctors gave him up. He was delirious then, and also during a severe attack of influenza in 1919 or 1920. It was about this time that he went home where he grew fatter still, gradually developing his goiter. It is possible that he might also have had encephalitis, but this cannot be stated with certainty, as there is no proof of actual nervous disorders in consequence.

Otto escaped all the more serious ailments. He was a heavy drinker and still is, whereas Ludwig nowadays has practically given up beer. He previously drank between five and six liters a day, occasionally somewhat less. Otto, however, was the heavier drinker and still takes his four measures daily.

The brothers were born in poor circumstances. Their father was a servant. He was a heavy drinker and was twice sentenced for assault. He was a sullen, close man; according to Otto, he had no affection for his family, but Ludwig asserts that he had his good days and was a decent fellow. Both sons praise their mother and de-

scribe her as a capable, kind, warm-hearted, and industrious woman who brought up her children well. The father died before he was sixty, no one quite knew from what cause. Their mother lived to be seventy-one. She was never entirely well, and during her last three years grew thinner, and without suffering from any actual illness, gradually broke down. She bore more than sixteen children, of whom, however, only four are alive. One son was killed in an accident at twenty; all the other children died in infancy. The children are not very closely in touch with one another. They know little of their relatives by their father's first marriage. The twins never got on particularly well together, which is unusual in monozygotics. They never really quarreled or interfered with one another, but their aims were always different, another unusual trait in monozygotic twins. No special reason was given to account for this, but it had been so for as long as they could remember.

Ludwig was born first, Otto a few minutes later. From the very first Ludwig was fatter and probably also quieter, and so he remained. Both of them were healthy during infancy and school years, and both developed normally. At school Otto was better than Ludwig, although not particularly bright. In his last grade he was eighteenth among twenty-six boys. Ludwig, on the other

hand, failed to get his promotions. He attributed this to his laziness, but admitted that Otto was the better scholar, a fact that apparently caused him some jealousy.

Otto was the gayer of the two and a good talker. He used this gift, enjoyed company, and was fond of showing off. Ludwig, on the other hand, was more serious and settled, more dependable, but not nearly such a good talker. He did not care for company, lived mostly by himself, and preferred to stay at home, without, however, showing a misanthropic turn of mind. Their lives reveal the differences in their temperaments quite clearly. Both had to earn money as soon as they left school and they could not afford to learn a trade. But Ludwig soon found a permanent job. Before his military service, as well as afterwards, until the war and again after the war, he was a workman and became a foreman in a large concern, which was shut down temporarily at the time of the French occupation. Ludwig could have stayed on, but he preferred to return home because he thought the future too uncertain where he was. After a short period of unemployment, during which he was ill, he got a post with a municipal council, where he feels happy and has remunerative and agreeable work.

Otto was at first a farm-laborer and later enlisted in the army. But he was dismissed because he fell so deeply

in love with a girl that he was absent without leave for several days. He was sentenced to twenty-one days' close confinement to barracks and then left his regiment. Ludwig's ambitions were different. He did his two years' compulsory service, during which, unlike his brother, he won his badge for shooting, and then returned to his job. He married early and is on excellent terms with his wife, by whom he has one child. In recent years he has adopted a child whom he loves tenderly. He was never very active sexually.

Otto, on the contrary, not only had an illegitimate child, during his military service, but since his marriage has become the father of another woman's child. He married later than Otto. He gets on fairly well with his wife, by whom he has two children, born at considerable intervals.

Both brothers served in the war. At an early stage Ludwig was badly wounded in the hand and spent nearly a year in hospital, after which his factory asked to have him back. Otto earned the Iron Cross, Second Class, was taken prisoner in 1917, and did not return home until 1920.

After the war, both joined the Communist party, Ludwig only for a very short time. He was forced to do so by the conditions prevailing in his factory at the time.

He soon retired altogether from "politics" and is now no longer a member of the party.

Otto's destiny, on the other hand, was sealed by his gift of oratory, his temperament, and his greater intelligence, coupled with his love of drink. He became the local leader of the Factory Workers' Union, and in this post had to do a great deal of speaking, sitting about in public houses and saloons, and collecting money. He managed the speaking very well, and the drinking too—he drank far too much and also went about with women. Finally, however, noticeable discrepancies appeared in his accounts. One day, when he was already under suspicion, he claimed that a theft had been committed in his office, but he behaved so strangely that the clues to the theft had to be destroyed. The inquiry which was started showed his large defalcations and the fact that he had forged signatures in at least two cases and that he had entered expenses for trips he had never made. Otto had plenty of excuses, but had to admit the forgeries. Nevertheless, he tried to lay the blame on his "political" enemies. The court came to a different conclusion, certainly the right one, but assumed that part of the missing funds had simply dribbled away, and took into consideration the fact that Otto lacked the preliminary training for his post and had had very great temptations.

He received only six months for breach of trust, embezzlement, and falsifying documents. During imprisonment he behaved well and made a fairly good impression. But during the mental examination he told a number of lies, boasted of decorations and a higher grade in service than he actually held, and of his fine marks at school.

His sentence broke him down. He now lives in great poverty in a miserable quarter of the town. His wife has to help earn money. He himself has a very hard job, at which he works incessantly. The members of his one-time party are now his enemies, not only because of his crime, but because he has left the party.

Ludwig, by contrast, lives in a very good apartment house. His home is as clean as a pin, he is contented with his work, happy with his wife and children, without much ambition, but completely reliable and friendly.

One might doubt the monozygotism of the Landsknecht twins in view of the considerable somatic differences, those of character and temperament, together with their unusually indifferent relationship to one another. Nevertheless, the resemblances between them seem to me to predominate. As ordinary brothers they would be exceedingly unusual. I have therefore classed this pair with the discordant monozygotics, although

they might be put in the group of those not positively classified.

There is little more to add to their story. Otto's offense was a typical crime of opportunity, but it consisted of a chain of actions which his twin brother, whose temperament would never have put him in Otto's situation, could hardly have committed. Without his particular mental make-up, Otto would not have reached his prominent post; without his love of drink and strong sexual impulse, he would scarcely have embezzled the funds. The very characteristics which brought Otto to his downfall are those which differentiate him the most from the brother he so closely resembles otherwise. It is not possible to determine how the mental differences between them arose and developed, but one must emphasize the fact that these mental differences correspond to very considerable physical ones. Souls are never free of their bodies.

CONCLUSION

In the first part of these investigations we applied the twin-method to criminals statistically. We ascertained in the case of the twins under investigation whether they themselves and their fellow-twins had come into conflict with the law. In every case we also endeavored to find out conclusively whether we were dealing with monozygotic twins, *i.e.*, those with the same heredity, or dizygotic pairs, *i.e.*, those with different heredity. In addition we confined ourselves exclusively to those of the same sex and also to such pairs of whom at least one partner had been sentenced.

Largely with the help of the Bavarian Ministry of Justice and the Institute of Criminal Biology at Straubing Prison, we found thirty pairs of twins, of whom thirteen were monozygotics and seventeen were dizy-

gotics. Of the thirteen monozygotic pairs, both twins had been sentenced in ten cases. In three cases only one twin had come in conflict with the law. Of the seventeen dizygotic pairs, there were only two cases where both twins had been sentenced. In the other fifteen pairs only one twin had come before the courts. In addition, a comparison between the criminality of dizygotic twins with that of ordinary brothers and sisters showed that both of a pair of dizygotic twins escaped sentence more frequently than was to be expected.

Even allowing for all necessary reservations, which will be gone into later, these facts show quite definitely that under our present social conditions, heredity does play a rôle of paramount importance in making the criminal; certainly a far greater rôle than many are prepared to admit.

Our rough figures also permit the conclusion that heredity alone is not exclusively a cause of criminality, but that one must allow a certain amount for environmental influences. Even our monozygotic pairs did not by any means show complete agreement in their attitudes to crime. The fact that in about one quarter of the cases, only one of the monozygotic twins was sentenced must be interpreted as showing that in these cases

some environmental influence determined the criminal behavior.

This statistical result, clear as it is, is still somewhat unsatisfactory. We should have nothing more to say if we had counted out certain pathological states. Crime, however, cannot be interpreted merely as the result of given biological factors; it is not a purely biological phenomenon which ceases with the criminal. It also presents a social picture and as such must always have a social background. We could easily imagine a state of society in which a whole series of actions which we now punish as misdeeds and crimes would not fall under the category of social offenses. There are other standards, in addition to biological ones, by which a man gets classed as a lawbreaker. One might even object that we had applied a scientific method to material unsuited to it.

Now, although no serious person really doubts that we must first look for the causes of crime in the criminal, *i.e.*, in biological material, the circumstances nevertheless demand that the crudest statistical results should be amplified by detailed individual information which permits a closer investigation, particularly into the environmental influences.

Here, the dizygotic pairs, particularly the discordant ones, cannot help us very much. We saw that the crimi-

nal members of such pairs had committed the most various misdeeds. Several of them were habitual criminals, whereas their twins had fitted into the social scheme and had even gotten on well in life. It is worth calling attention to the fact that in a number of cases it was not the other twin, but a brother or sister who had been in trouble. This fact can be interpreted either to postulate an unusually bad environment, or particularly strong hereditary tendencies toward anti-social behavior in the families in question. Both points of view emphasize the relevance of the other twins' non-criminal conduct, and the importance of the innate tendencies with which each separate individual enters society.

We might have expected more conclusive information from the concordant dizygotic pairs. Unfortunately our investigations in these cases met with considerable obstacles; in them we were dealing with exceptional circumstances. The records clearly showed the pairs of twins differed in the manner and extent of their crimes. We also know that there were great differences of personality between the twins examined. But apart from these facts we learned little that was certain. It is, however, worth emphasizing that in the case of one pair we could not help suspecting a common hereditary venereal infection. If this were true, we might be confronted

less with innate tendencies to crime than with the results of brain lesions, which, as we know, often predispose a person to anti-social behavior. In the case of the second pair of concordant dizygotics it is important to note that another brother had a long criminal record. With due reservation, this might lead us to assume a strong inheritance of anti-social tendencies. It is even more important to realize that the criminal activities of one twin resemble those of his third brother much more closely than those of his twin, who for a short time only committed a series of small misdemeanors, possibly due to a biological derangement of a temporary nature.

An estimate of the influence of environmental causes of crime should be greatly assisted by a study of the discordant monozygotic pairs. If we assume the same innate characteristics, as we are permitted to do in these cases, they should have merely a subordinate influence in determining the criminality of one twin. The chief part would be due to external influences, and the life histories of the twins would clearly reveal this fact. But our observations contradicted most definitely our expectations of finding social and mental factors mainly responsible for their criminality. In at least two out of three cases the criminal twins, and they alone, had suffered serious brain lesions. It is therefore possible to con-

clude that the crimes in question were actually among the consequences of these lesions. In the case of one, a murderer, we were almost certainly dealing with a traumatic epileptic, who committed his dreadful deed when in a pathological state. The other, a hopeless invert, was not only mentally different from his twin, but revealed the physical signs of abnormal sexuality as well. The typical mental traits which accompany these physical ones were those which put him in a separate class from his brother and also caused the irresponsibility which led him into trouble. The cause of these differences between the twins was obviously a serious injury at birth, the marks of which both still bear to this day.

The third discordant monozygotic pair presents a very different picture. In this case it is impossible to overlook the particular circumstances in which the criminal twin found large sums of money in his charge, the feeling of power it gave him, his lack of good faith and of proper education to responsibility. These considerations reveal very clearly how complicated are the various causes of criminal behavior. We must assume that a definite difference in personality between the twins was responsible for one attaining the position he did. The origin of the difference is unknown to us, but it can be traced back to earliest boyhood. His greater intelligence, his more

vivacious temperament, his superior ability to talk were the reasons for his getting the job. It is noteworthy that in this case too we find physical bases for the dissimilarities in character. The greater degree of sexuality, which differentiated the criminal from his twin, formed a natural background in itself a predisposition for his act, and finally his addiction to drink, due partly to temperament and partly to opportunity, enabled Landsknecht to break down various inhibitions sufficiently to make his misdeeds possible. In this case too, a closer investigation puts the social factors and those of experience in a minor place, although they cannot be discounted.

The concordant monozygotic pairs should reveal the like effect of like innate tendencies, while the differences in their cases should enable us to estimate the importance of environmental factors. But the most striking feature of all is the complete agreement, far beyond what we might have reasonably expected, in the behavior of a large number of pairs. It is only necessary to recall the cases of the Heufelder, Meister, Lauterbach, and Ostertag brothers, as well as the Dieners and Maats, and the Messer sisters. In all these pairs the type of crime is identical, the criminal careers begin at about the same age, and the behavior of both members in court and in prison corresponds absolutely. The Heufelders were old

burglars, both of whom have been behind bars for nearly twenty years and both of whom showed paranoiac symptoms during imprisonment. Both the Meister brothers committed puerile offenses against the property laws, and suffered in prison from excess of imagination. The Lauterbachs were unusual swindlers, crooks with ability amounting almost to genius, who kept up their end even in court, and whose "respectability" in prison is as great as their unblushing impudence. Both Ostertag brothers have too little sense and will-power, at least in view of the ambitions induced in them by their happy, prosperous youth. The two Dieners, guttersnipes, but good fellows at heart, cannot stand alcohol; it develops frenzy and draws the knives from their pockets. The Maat brothers are lacking in all human feeling except for their own unpleasant selves. Their abnormal sexuality leads them into intimate relationships, but even these only seem valuable to them if they can exploit the people with whom they are involved. Finally, the Messer sisters suffer from a rare degree of nymphomania. In all these cases we see the results of a common law binding these pairs of twins to one another.

At the same time we must consider a possible objection, or at least ask ourselves a question which is of the greatest importance for the interpretation of our results.

Is not the close resemblance in the criminal behavior of these twins perhaps due to common experiences or mutual influences? In the case of the Ostertags it is obvious that they would hardly have committed their crimes had it not occurred to them to go into partnership. Separately, each might have had sufficient powers of resistance to adapt himself to his social environment, but the greater irresponsibility of one, compared with the other's greater laziness, led to their mutual downfall. But the fact that these particular twins came to work together was probably due to accidental causes. When in difficulties one of the brothers soon found a colleague of the same type prepared to assist him in illegal actions, and the other brother was probably lucky to have a strong-willed wife who stuck to him throughout his troubles. Further facts lead one to believe that the influence of biological rhythm predominates: after their first mischievousness during puberty they seemed to settle down for a time; now, after more than fifteen years, both have put on flesh and developed diabetes. Not much remains which can be attributed to definite mutual influences. In the other cases there is even less question of such a possibility. The Heufelders never got on well together and both went the same way independently. This is also true of the Meisters, who were

far apart when their misfortunes fell upon them, just as they were when they suddenly developed appendicitis and when they ran away from their jobs. The most that can be said from this point of view about the Lauterbachs is that one brother copied from the other his particular method of swindling, but long before this he had proved his ability to invent schemes of his own, and his luck and shady character were revealed more than once. I hardly need mention the Dieners here, and as for the Maats, one may take their word for it that each discovered his perverted instincts independently of the other. The innate nymphomania of both Messer sisters only showed itself long after they had been separated and indulged in numberless outside affairs. If these life histories are studied without prejudice, the mutual influence of the respective pairs is scarcely a preponderant factor.

At the same time, this does not eliminate the possibility that both twins of a pair were subjected to similar mental influences in early childhood, which, according to their like natures, determined their like destinies. But it is perhaps unnecessary to go closely into this matter, since according to the well-known theory the influences in question appear to recede farther and farther back into the earliest and dimmest beginnings

of childhood. Even if we do take this suggestion into account, we must presuppose similar innate tendencies, which are still decisive. As a rule, however, twins are not invariably treated in exactly the same way and reveal various mental differences. In spite of this, they ultimately behave pretty much alike when faced with important situations in later life. I have observed this over and over again in my other studies of twins and have taken it to be the expression of the fact that the superficial differences were superimposed on similar innate material which, in time, determined their general conduct on all decisive occasions in their lives. Even criminal twins sometimes show fairly definite differences in their mental make-up, but when it comes to their criminal behavior, these differences either disappear or have only minor influence. All this, no doubt, will hardly convince a contrary opinion not founded on investigation.

Let us, therefore, select the pair which were separated at the earliest age. These were the Schweizer twins, who lost their excellent mother when they were eight years old, and were then subjected to very dissimilar educational influences. The more obvious facts in the stories of their later lives might at first lead us to suppose that the differences in their childhood experiences had been of the

greatest importance in the development of their personalities. Even so, there are plenty of similarities in their conduct. After seven years' separation both were punished when living in different towns for the same offense—truancy. Then, while one took to vagrancy and to unrestrained and stupid attacks on property, the other was an indifferently bad apprentice to his kind old foster-father and master. At an early date he started to have love-affairs, to smoke far too much, and then threatened his unfaithful girl's lover with murder, finally wounding him. Subsequently he ran away in a most ungrateful manner when he was most urgently needed by his master. The first marriages of both twins revealed abnormal conditions. There is little to choose between the behavior of one, who slept with another woman on his wedding night, and that of the other, who allowed his wife to misconduct herself with another man in his presence, and who, before his divorce, had illegitimate children by two different women. Finally, this broken fellow, who had not a whole garment to his name and had to be brought home by the foster-father he so ungratefully deserted, who drank twenty-four glasses of beer a day, can hardly be considered superior to his brother, who was forever being picked up drunk in the gutter. Although life may have led them far apart, they

are nevertheless united by an identical lack of will-power, which determined the fate of both. This is what controlled their lives rather than experiences in early childhood. One finally married a woman whose determination alone kept him out of prison, the other was less fortunate and fell to the moral level of his last mistress. In spite of all this, there are, of course, external differences which are fairly impressive. But they have no connection with the particular growth of personality due to experience; they are not capable of development and are merely the outward garments in which their personalities are wrapped.

Even so, these small differences cannot be summarily dismissed. Such details of social behavior do decide whether a person ends in jail or not. Our observations reveal other similar effects of environmental conditions. One of the Rieder brothers, for example, who is married to a decent woman, leads, if not a distinguished, at least a more or less blameless life. His twin, on the other hand, lost his first excellent wife and married a spitfire, so that in the end, his present good-natured but lax partner led him into new temptations and so to his ruin. The Ostertag brothers also show in one twin the temporary bad influence of an amorous relationship, while in the other twin the facts are reversed.

Nevertheless, the cases of the Rieder brothers are not so simple as they might appear from the conditions given above. Wilhelm developed tuberculosis at the front. Whatever the reasons for it may be, this disease does seem to diminish the sufferer's self-control. And in addition Wilhelm took to alcohol again to a larger extent. The particularly evil influence of this revealed itself two decades earlier in the case of his twin Josef, and it is manifest also in the case of the Dieners, the Schweizers, of Wolfgang Lauterbach, and especially of Georg Krämer, with whom we have still to deal. If we add to this the Meisters, who are by no means abstainers, and Otto Landsknecht's lack of self-control due partly to drink, we have an impressive series of victims in part or entirely of alcohol, an enemy of mankind disguised as a source of pleasure and promoter of friendship. In the narrower sense, however, alcohol has neither social nor mental influences, and that is why, in many instances, the effects of such external influences, which at first might appear considerable, are proved after a time to fade away.

But we still have not given a complete account of all the influences at work on the Rieder twins. Their reaction to the suicide of their friend revealed the suggestibility of both. We must therefore take into

consideration that Josef was probably not uninfluenced by his year and a quarter in prison, and that this may have been one of the causes of his good conduct in later life. It is a pity that because the records had been withdrawn before our investigation, we were unable to obtain further details about the Rieder brothers. It is certain, however, that suggestible people are deeply influenced by imprisonment. The Meister brothers recall their prison experiences with horror and are grateful to those who took a sympathetic interest in them during that time. Both were still young, as was Josef Rieder, when they served their sentences. The strong impression made on them may be due to this. August Heufelder, too, was deeply affected by his first long period of imprisonment. During the course of it he developed mentally, and even to-day, his twin brother thirty-eight years old, has not progressed as far mentally as August had by the time he was twenty. In spite of this, however, the laws which ruled August Heufelder's inner nature were the stronger.

There is no doubt that both Heufelders suffered bitterly during their imprisonment. This emerges clearly from their paranoiac symptoms and from their conversation. August reached mental maturity through his struggle with his inner problems and great mental suffering,

just as Adolf's battle "for the right" symbolized for him his inner conflicts. The latter's rebellion in the penitentiary, as well as the wild revolt of both brothers against discipline towards the end of long sentences, were other symptoms of their internal warfare. The pressure of great forces working in their souls had to be exploded. Ricarda Huch once said, "Just as a man has to carry the weight of his body about with him, so he has to carry the weight of his soul." In the case of the Heufelder brothers this weight was almost unbearably heavy during imprisonment. The opposite is true of the Lauterbachs. These twins show an astonishing adaptability in stepping out of great luxury into the deprivations of prison life. It is true that they obtained all possible favors, but nevertheless the effects of confinement slid off them like water from a duck's back. In order to make an impression on them other methods would have to be found. There was no weight which would not instantly sink in such tenuous material as that of which their minds were made.

We have not yet dealt with the Krämer brothers, who, although both have been sentenced, are a discordant pair with respect to the nature of their crimes. It has already been mentioned that this discrepancy might be due, in addition to the effects of alcohol, to a serious

brain lesion incurred by one of them, which may have caused a difference in mental and physical development. Still, both have been in conflict with the law. One might perhaps discount Adolf's theft as a foolish boy's prank; I do not think, however, that this would be justifiable. On the contrary, I believe it presents a definite problem, possibly the most important problem of our whole investigation.

Ludwig Diener's record revealed, in addition to an act of brutality committed under alcoholic influence, a crime against property. The same is true of Luitpold Schweizer, Josef Rieder, and Georg Meister. The Heufelder brothers, besides their refusal to recognize property rights, occasionally show an unmistakable trend to brutality; August, in his indecent misdemeanor and later in a case of assault; Adolf, in committing his theft with violence, when the terrified woman he had robbed was hung up by the neck. The Messer sisters reveal a definite lack of general self-control as well as abnormal sexuality. The Lauterbachs also were not precisely guardians of morals in sexual affairs; and the Maats appear to be not only inverts, but to profit financially by their perversion. I could give several other instances in this connection, but the Heufelders reveal most distinctly the two types of delinquency.

The same observation can be made in numerous cases investigated which provided a large amount of material concerning the life histories of criminals. Very often one or the other type of crime predominates, but it is not at all unusual for crimes of brutality and offenses against property to co-exist to about the same degree, and sexual misdemeanors are frequently allied to them. This is so even with people who cannot be summarily dismissed as professional criminals.

Here I think we have found the biological breaking-point, of which social delinquencies are a result. The inability to resist innate urges never seems to work exclusively in one direction, but to be more or less general. In some way there is a breakdown in curbing or restraining these urges, quite apart from their own strength. This appears to have nothing, or at least nothing directly to do with the mental superstructure. Individuals of high intelligence and even of unusual emotional development are known, who, in spite of these and other admirable qualities, again and again go wrong. It is certainly true that those who possess abnormally strong instincts run greater risks in this direction, and so do the feeble-minded and those with emotional defects, especially those suffering from moral insanity in the more literal sense. Yet none of these people need

become criminals. In order for this to occur, it seems to be necessary that in some way the instinctive and directive functions which condition personality must fail to work together safely and usefully, with the exception of those cases, probably very rare ones, in which crime is adopted as a profession or gradually becomes one.

A similar phenomenon can be seen to occur comparatively late in life, generally as the result of brain lesions. Of great interest in this connection are not so much serious pathological conditions as the criminal behavior resulting from these processes, which reveals itself at a stage when one cannot clearly detect failure of the intellect or other deteriorations in the sufferer's character. The obvious example is the alteration in social behavior brought about by *encephalitis epidemica,* or "sleepy sickness," of which we have studied the detrimental effects on so many adolescent victims. Such symptoms occur before one is able to trace serious lesions of the nervous system, a failing of intellectual ability, or at any rate in the beginning, defects in emotional relationships. Children who have previously been perfectly good, begin to lie, steal, wander about, ill-treat their companions, revolt against all discipline, and even to attack grown-ups, and also to behave in a sexually abnormal manner towards those of their own age. In

fact their entire behavior becomes anti-social. This phenomenon presents us with a kind of enlarged model of the conduct of a great number of our criminals. It may not be due to chance that young people in particular are altered in this way by encephalitis. Our final social relationships are, on the whole, end-results of the development of our personalities, which are being built up during childhood, but which, like other phenomena during their developmental stages, are particularly unstable and capable of being destroyed. It is also noteworthy that puberty, bringing with it, as it does, entirely new problems and social tasks, is not merely a particularly critical period for those who at that time are obliged to begin making their way in the world, but is also an extremely critical period for the whole development of personality. It is at this time that an unusually big step must be taken from purely instinctive life to self-controlled activities, a step which may easily be fumbled.

The special functions which seem to be almost solely damaged in the case of young sufferers from encephalitis are just those which in many criminals have not been completely developed and which appear to be unusually accessible to all possible influences, especially that of alcohol, although perhaps also to the toxic effects of tuberculosis. If, as we may assume from our experiences

with encephalitis, the functions in question are general ones, it should not surprise us that lapses of the most diverse kind take place so frequently. Taking into account other evidence with regard to pathological conditions of the brain, it is not difficult to understand why so many prisoners reveal hysterical, paranoiac, and paranoid processes. Finally, this evidence also clearly explains why twins of the same innate tendencies behave similarly in the overwhelming majority of cases. In spite of all superficial differences, the deep-seated functions develop in an amazingly similar manner in these twins.

In my opinion, Homburger has quite rightly emphasized that in the case of young encephalitis victims we have to deal with a change of behavior rather than with a change of character. With criminals, matters are not very different. The twins we studied revealed characters of the greatest variety. The type of human beings assumed by the layman to be "the criminal type" hardly exists among them. The Meisters and the Ostertags, the Dieners and even the Schweizers, the Rieders and Krämers, are not really "criminals," any more than the Messer sisters. Among them are a group of kind-hearted, gentle creatures who would indignantly deny that they had ever intended to become professional criminals. I would go further and say that not one of them would

be capable of planning and carrying out a serious crime. They all lack the *will* to crime.

The Heufelders are in a different class, for in their more recent years they quite deliberately adopted burglary as a profession. But even in their case this was not always so, and we know for certain that August —according to his own plausible assertion—was only forced through penury to gain his living by crime. Adolf . is in another category. He seems to have been altogether changed by the war and to have committed his crimes with a certain amount of professional pride. But even he was probably partly influenced in taking this turn by his experiences in war-time, and the bad post-war conditions to which he returned after a long period of demoralizing imprisonment. I think it extremely probable that many criminals become professionals as August did, simply because our society has no further use for people of his type and with records like his. It is unnecessary to emphasize the fact that permanent detention would be less of a misery for such people than constantly being forced into crime with its accompaniment of shame and harsh privations.

The atmosphere surrounding the Lauterbachs and especially the Maats is a much less agreeable one than that of the Heufelders. The Maats seem to me to belong

on the human scrap-heap. Their careers have only just begun. I expect no good from them in the future, even if their intelligence and their cold-bloodedness enable them to discover means of preying on their fellow-creatures which will evade the arm of the law. The Lauterbachs are less evil, but more dangerous to society. They are swindlers of the deepest dye and their aim, probably quite consciously, is the shameless exploitation of other human beings. They might, perhaps, be set free providing their records could be written on their foreheads, and if they could be sterilized so as not to produce more of their kind.

But even the last-named pairs of twins cannot be classed with such active criminals as those whom Klages defines as devoid of all human feeling or any desire to work; complete egotists, for whom nothing counts beyond the satisfaction of their most primitive urges, which include an abnormal and almost instinctive degree of cruelty. Such people are bound to go wrong in any society, because the slightest resistance from outside induces anti-social behavior on their part. And yet, even people of the type of the Lauterbachs and the Maats remain anti-social at bottom, although a favorable destiny may accidentally protect them against conflicts with the criminal law. All the others reveal environ-

mental influences, the Heufelders showing them at their worst. It is true that during the later stages of their careers, the environment of the Heufelders was not an average, but an abnormal one, due to the cruel countermeasures with which society opposed their anti-social dealings. In this case one might stress the "guilt" of society, if the expression is permissible in this investigation.

In none of the other cases can we leave out of account environmental influences on the development of criminal behavior. I will take Karl Diener's manslaughter as a crude example. His alcoholism was not his own doing, but occurred because his constitution subjected him to the effects of our general drinking custom. He is not alone in his habit of having a knife handy in any quarrel. This is something he shares with all his countrymen of his own age, not merely with people in his own social circle. The custom is an almost innate peculiarity of old Bavarians, of whatever class they may be, and one they will probably take to the grave with them. The fact, however, that Karl Diener *used* his knife has a close connection with his social status. A drunken student in similar circumstances would have challenged his opponent and would have sent him his seconds on the following day. The bodily injuries which

are caused in this way, however, do not bring most of those who commit them before the criminal courts.

I could cite other such examples with regard to offenses against property, but I need only mention the thefts of intellectual property, which even in the worst cases do not lead to real social outlawry, at least not to the same extent as thefts of property of half their importance, quite apart from the fact that the courts rarely have to deal with these cases. At the same time a social organization which offered no inducements to crime is inconceivable, even if the proportion of apprehended criminals were a good deal lower than it is in our own society. If we discuss the importance of social influence, we must do so against the background of the economic system of to-day.

We thus see revealed, in addition to innate tendencies, environmental influences, some of them of a quite general kind, others to which the individual, unable to escape their pressure, succumbs. Environmental influences are of particular importance for the criminal because his very nature includes a far greater amount of suggestibility than the average man. In this way he often becomes a helpless victim of any environment in which he happens to find himself.

But the environment itself depends to a considerable

extent on the type of individual concerned. The personal histories I have given show this very clearly, not so much in the destinies of the separate individuals as through a comparison between the twins in each case. In no single instance was one twin able to rise above the social status of his brother. As an example we may take the vain attempt of Luitpold Schweizer to start and to maintain a business of his own—vain in spite of his strong-willed and industrious second wife. Furthermore, I would remind the reader of Otto Landsknecht, who, despite all his good qualities and favorable opportunities, tumbled irresistibly from his high position. As an example of the opposite, one might take Josef Rieder, but he too remained a member of the working-classes. The two Lauterbachs fell to the depths from dizzy heights. The Ostertags dropped out of their family's class owing to a pitiful gap between their demands on life and their abilities to satisfy those demands. Finally, both Maat brothers, although they are at present just managing to cling to the outer circles of the cultured middle-classes, have already fallen far below their original environment, and they will probably sink completely as soon as their very wealthy father withdraws his protection. I need hardly mention any of the others.

In contrast to these pairs, I would like to draw the

reader's attention to the dizygotic twins. Even when both have come into conflict with the law, we have, in one case at any rate, a difference of at least two classes between a pair of twins. All the discordant cases are further separated by the gulf opened by imprisonment between a guilty and an innocent person. But even more noteworthy is the fact that certain individual twins have reached a social position considerably higher than that of their father, whereas their brothers have fallen in the social scale

It is, therefore, not merely his original environment which determines the social class to which an individual belongs and the particular temptations to crime which confront him. On the contrary, this itself is determined by his type, which in its turn largely depends upon the inner laws which determine his particular tendency to crime. This is a new aspect of the problem for those who insist again and again on penury, misery, and privation as the true causes of social downfall. I may also add that my normal twins very rarely reveal class differences between pairs originally brought up together. I scarcely dare hope that this lesson will impress convinced believers in the "environmental theory." There is still the bogey called "society" which makes it possible for any one to rise or fall.

Types closely related to our subjects are to be found without exception in the large group of psychopathic persons of all kinds. A large majority of them are weak-willed or will-less. Among the symptoms of such people must be classed their ever-ready tendency to fall into crime, although this does not apply to all cases. Potential criminals constitute only one group of the weak-willed. Numbers of others, who suffer from slight or imaginary disabilities, fill our hospitals or wander about our streets. Masses of them are to be found in recently developed professions; they are film-actors and supers, "pavement artists" and hawkers, scandal-mongering reporters and "representatives"; even more particularly wives who find everything too much trouble and prostitutes who take no real pride in their profession. We find them also in another section of the community whose habits run just as true to type; among those whom we consider especially praiseworthy, the good, kind creatures who are the defenseless victims of their sympathies and would "give away the shirt off their backs." I know a female "criminal" who was driven by sheer kind-heartedness not merely to give away everything she had and to go hungry in consequence, but who performed abortions gratis and was punished for doing so. Probably these friends of humanity who are thus compelled

to act against their own interests are not so rare as we think.

The most closely related individuals to swindlers of the Lauterbach type are found among a large number of hospital patients, namely, hysterical fakers; also in the increasing ranks of income tax defrauders, journalists, novelists, and fraudulent freebooters in all professions, but especially, as in the former cases, among women, who harass their families in many ways. This class also includes a great number of valuable people whose heightened imagination finds a useful outlet in artistic creation. I would only remind the reader of Clemens Brentano, to take an example from another age than our own.

We occasionally see the close inter-relationships of both groups, in the case, for instance, of Ferdinand Meister, who, as time goes on, is more and more frequently in hospital, and the Lauterbachs, who frighten their associates with their mysterious illnesses.

Finally we must include the large number of suicides, who from sheer weakness step out of the ranks. Up to a point I agree with von Hentig, who interprets the fate of these unfortunates as an act which delivers society from its incompetent members. I myself do not doubt that the victims of many "sporting" accidents belong

in this category. I am particularly reminded of the great numbers of disgracefully careless motor-cyclists who not only make a nuisance of themselves to every one by the commotion they cause at all hours of the day, but who by their methods of driving provide constant danger, of which they are themselves the most frequent victims. As a matter of fact, in these cases the carelessness of society is also to blame. We are all guilty in so far as we tolerate such proceedings, and the same is true of many other "sporting" phenomena.

The non-criminal types who resemble our subjects are often far less useful socially than the criminals themselves, but they are less obviously burdens on the community. The damage done by most of our subjects would really not be so great without the pernicious influence of alcohol. But this again is the fault of society. So long as we not merely look on, but encourage drinking, and systematically lie to ourselves about it, we have no *real* right to inflict heavy punishment on a person who is no different from any one else. True, the most useful people do not generally succumb to alcohol, but nevertheless among those who do there is many a one worth a good deal more than hundreds of thousands who poison themselves from day to day without apparently seriously evil results to society.

In other directions we must tear down the barriers which to-day still separate the good citizen from the "criminal." We have discussed above the relationships between the criminal without will-power and numerous other social "dark horses"; but we also noted the connection between them and certain admirable types who command our entire respect. Let us merely remember that many other psychopathics, although they are not anti-social in the criminal sense, are anti-social in a much more troublesome way. Martinets and nagging superiors, who cause their entire staff constant worry, tyrants of the home before whom their families tremble, easy-going creatures who throw all responsibility on some one else, innumerable men who enter into erotic relationships with girls below their own class, all these are not socially useful people, at least not in certain important aspects of human affairs. The consideration of such cases leads us among average men and women. But even if we only consider actions forbidden by law, how many of us can truly claim to be completely blameless in this respect? I know a young lady who can afford to spend more on herself in one day than many a large family needs for support. This girl once explained to me that it gave her particular pleasure to take a tram without paying her fare, or else to go further than her

ticket allowed her. Probably all of us occasionally go beyond our "fare," and for the same reason that so many criminals commit their first infringement of the law, namely, because owing to some momentary or permanent breach in social organization, an opportunity is created, of which, if we are in the mood, we take advantage. Some may thus take to crime, others may not; it simply depends on the average of our self-control. Here again, as everywhere in the domain of psychopathic brain functions, we find an unbroken series ranging from normal to pathological cases. The boundary between the two is fraught with social consequences. The fact that their behavior is not exclusively conditioned by their degree of abnormality constitutes the tragedy of so many criminals who are nevertheless worthy human beings.

Our investigations lead to simple and clear conclusions from the point of view of legal and criminological action. If criminal behavior depends entirely upon the laws governing our own inner selves—and it obviously does—there is no point in punishment in the narrower sense. Although it is also the object of punishment to safeguard society, this end is still too much obscured by the means taken to achieve it. This is at any rate the view of the masses, based on their "instinctive" impres-

sions. Nowadays we should regard the safety of society as our only and definite object, and act accordingly. We must readjust our general views of justice to this point of view.

We have seen that imprisonment as it is to-day can be a drastic method of education and prevention. We do not know whether it is the best one or not. However much we may alter conditions of imprisonment, we can never abolish it. It is only a question of finding the method which is most effective and least harmful to those who must endure it permanently. A system which converts a man like August Heufelder from an irresponsible into a deliberate criminal should be out of the question. It ought to be one of society's duties to discover a progressive form of imprisonment which would attempt to give back more and more of a prisoner's lost independence and to lead him back into everyday life. Other equally important tasks seem to me to be the reform of the after-care system for discharged prisoners and an alteration in the general public's attitude toward crime.

But three other points strike me as even more urgently necessary. The first is the abolition of the evil influence of alcohol. But in this connection we know that in Germany, at any rate, we are still talking to deaf ears.

Secondly, we should make every attempt to discover as early as possible those who must be permanently segregated if society is to be protected from grave damage. The detailed examination of all law-breakers and the thorough training of experts in this subject are essentials toward this end.

Finally, and this is our most important task, we must take preventive measures. We must try to make it impossible for human beings with positive criminal tendencies to be born. It can be said with some degree of certainty that there is no means of abolishing by birth-control methods the minor criminals who nowadays throng most of our prisons. For they are the results of cross-breeding which must take place in order to preserve the diversity of individual types, which is an *ad hoc* condition for all human culture. I do believe it possible, however, to prevent the development of criminal tendencies. But we shall only be able to do so when we know a great deal more than we do to-day. Our twin-method can merely teach us that the tendencies which lead to anti-social behavior develop in the domain of heredity. It tells us nothing about the manner in which these tendencies are inherited. We know that such tendencies are occasionally handed down as a whole, but can also be built up by new crosses. If our knowledge

in this direction is to go beyond these merely general facts, it can only do so by means of the most detailed investigation of families. The closest study of criminal heredity must go hand in hand with the investigation of the criminals themselves.

So we finish at the point where we started. We see the beginnings of what is so urgently needed, in the Institute for Criminal Biology founded by the Bavarian Ministry of Justice. Unless such methods are widened and, in particular, deepened, *i.e.*, unless we can secure the most comprehensive apparatus for dealing with the problem, we shall not reach the goal towards which we are now so ardently striving.

APPENDIX

Individual cases. With regard to the special groups of twins mentioned, emphasis must be placed on the monozygotic pairs, with special importance attaching to whatever differences are found in these pairs. A few outstanding points will suffice as far as the dizygotic pairs are concerned. But even with regard to the monozygotic couples, I can give only a small part of the enormous mass of material obtained from official documents and the information supplied by the investigators. There is a certain danger in this. It is possible that in selecting the material I may have taken what particularly suited my theory. But I think I have avoided this bias. In many cases, the criminal records are so illuminating that nothing needs to be added to them.

A. *Discordant Dizygotics.* The individual twins among these pairs were never taken for one another. In most instances their very extraordinary differences were emphasized, probably because one generally expects twins to look alike. In many cases they would not even have passed as ordinary brothers or sisters. In every case one of the pair was sentenced and the other kept clear of the law. We have legal records for all of them. There are three female (1,2,9,) and 14 male pairs.

It is enough for our purpose to give the age, profession, and previous sentences of the criminals and the records of other criminals found among their brothers and sisters.

(1) 17 years old. Reformatory child—sent to reformatory for theft, swindling, etc.

(2) 17 years old. Reformatory child—21 days' detention for giving false name and professional prostitution.

(3) 22 years old. Carpenter—2 detentions (16 days) for begging and infringement of street regulations, 14 days' imprisonment for assault and battery. At the age of 20 was stabbed in a brawl. One brother was sentenced to three years' penal servitude for assault.

(4) 20 years old. Manservant—5 months' imprisonment for indecent assault.

(5) 27 years old. Merchant—last sentence one year's

imprisonment for swindling. Previous sentences include 60 days' imprisonment for gambling, 1 week for swindling, 1 week's detention for vagrancy, 3 weeks' imprisonment for swindling, 1 week's imprisonment for disturbance of domestic peace, 4 weeks for swindling, and 7 months' imprisonment for swindling. Comes from well-to-do and decent environment. Is the only criminal in a large group.

(6) 45 years old. Day laborer—1 year and 3 months' penal servitude for indecent assault. Another brother sentenced to 8 months for swindling.

(7) 49 years old. Merchant—1 year and 6 months' penal servitude for incestuous offense. Previous sentences, 10 days' imprisonment for infringement of forest-law, 1 months' imprisonment for misdemeanor. Not punished since then.

(8) 42 years old. Innkeeper—1 year and 6 months' penal servitude for arson. Previously sentenced to 4 months' imprisonment for assault and battery.

(9) 31 years old. Midwife—1 year and 9 months' imprisonment for abortion. No relatives punished by law.

(10) 27 years old. Workman—2 years' imprisonment for breaking the peace. Previous sentence, 8 days for assault and battery. One brother detained for infringement of forest-laws.

(11) 26 years old. Painter—2 years' penal servitude for burglary. Previous punishment—for theft as child; 9 sentences for theft and swindling, 3 days, 14 days, 3 months, and finally 7 months' imprisonment. Another brother got 1 day's imprisonment for theft.

(12) 28 years old. Manservant—2 years' penal servitude for theft. Previous sentences—for theft of goods, theft of money 4 months, 18 months and 4 months' imprisonment. Record probably incomplete. Father spent everything on drink.

(13) 44 years old. Workman—3 years' imprisonment for attempted murder. Previous sentences 1 day's imprisonment for swindling, 5 days' detention for begging, 1 day's detention for repeating offense. Another brother has had several sentences.

(14) 28 years old. Workman—5 years' penal servitude for grand larceny. At least three previous sentences for theft.

(15) 37 years old. Brickmaker—6 years' penal servitude for theft and other crimes, 21 thefts in all. Previous sentences, 9½ months for assault, 5 months for embezzlement. Comes of a very decent family. In prison he became schizophrenic (a form of mental derangement).

It is worth noting that in at least 10 of the 15 cases

the criminal twin was sentenced more than once, some of them several times. Four of the subjects were quite young, so one must take into account the fact that the other one of the pair may still be sentenced. But in these four cases I have detailed information in which the unsentenced twin is described as a quite different person from the criminal. In cases Nos. 1 and 2 I would not like to assume that the second sister will go wrong like her twin. The twin brother of No. 4 is, according to all accounts, a good and decent chap. In the case of No. 3 the criminal brother, who was finally killed in a public brawl, was to all appearances the exact opposite of the survivor. The victim was a particularly rough and brutal fellow who from his record was almost certain to come to a bad end. His good-natured, quiet, and also much more stupid brother was hardly likely to get involved in a brawl.

All the other subjects were well over thirty years old. According to previous experience, it is unlikely that at this age the other of the pair would get into trouble with the law. In every case the other twin is living in perfectly respectable circumstances; in many cases he is quite well-off. In cases Nos. 5 and 13 the brothers are master-mechanics who have got on well; in Nos. 6, 12, and 14 they are skilled workers. The same applies

to No. 11, in whose case all informants emphasize that the brother is particularly respectable and generally popular. In cases Nos. 7 and 8 the brothers are innkeepers, prosperous and respected. The brother of No. 10 is married and in good circumstances. The twin of No. 15 is an official. The sister of No. 9 is married to a skilled workman.

On the other hand, other brothers were punished, sometimes heavily, in 5 cases. In these instances probably we do not know the worst, as we have to rely on information given by the subjects themselves and obtained from their homes. In our experience this is generally incomplete. Nevertheless, the ratio is definitely higher than that of average criminal material, a fact which makes the clean record of the twin relative particularly impressive. In these families we have to reckon with especially bad environmental influences, apart from the fact that the occurrence of crime in them might be interpreted as showing unusually strong criminal heredity.

THE END

THE translation of *Crime and Destiny* was made by Mrs. Haldane. It was thought advisable, however, to make some revisions for the American edition.

These changes were made by Mr. Eugene Löhrke.

In the original edition, the section now in the Appendix was included in the body of the book.

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